HotBrick

Dual WAN Firewall VPN 1400/2

User's Guide

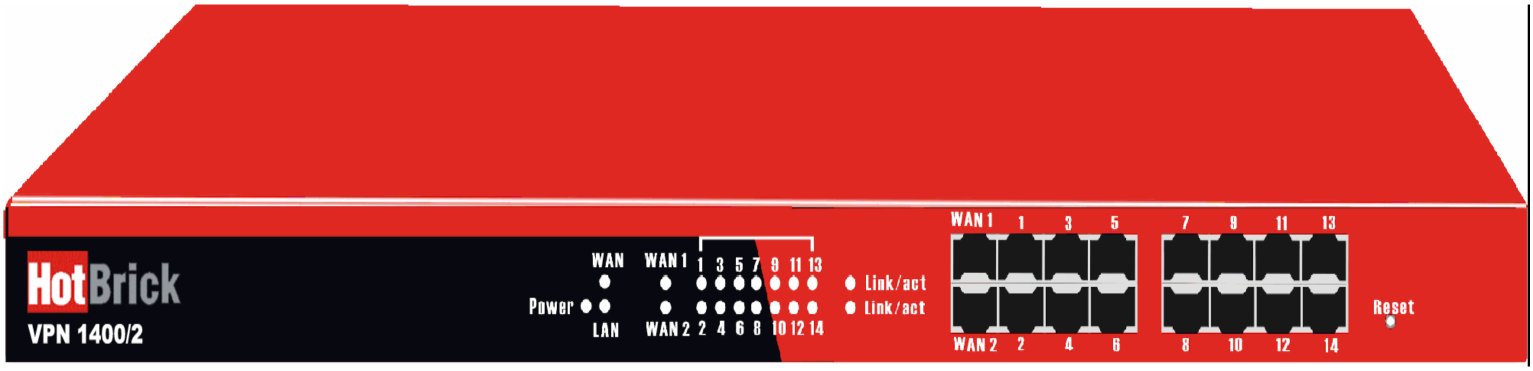

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TABLE OF CONTENTS

Document Version: 1.0

1:Introduction

Congratulations on the purchase of your new Dual WAN VPN Firewall. The Dual WAN VPN Firewall not only provides 2 WAN ports selections – it also provides ***Shared Broadband Internet Access*** for all LAN users.

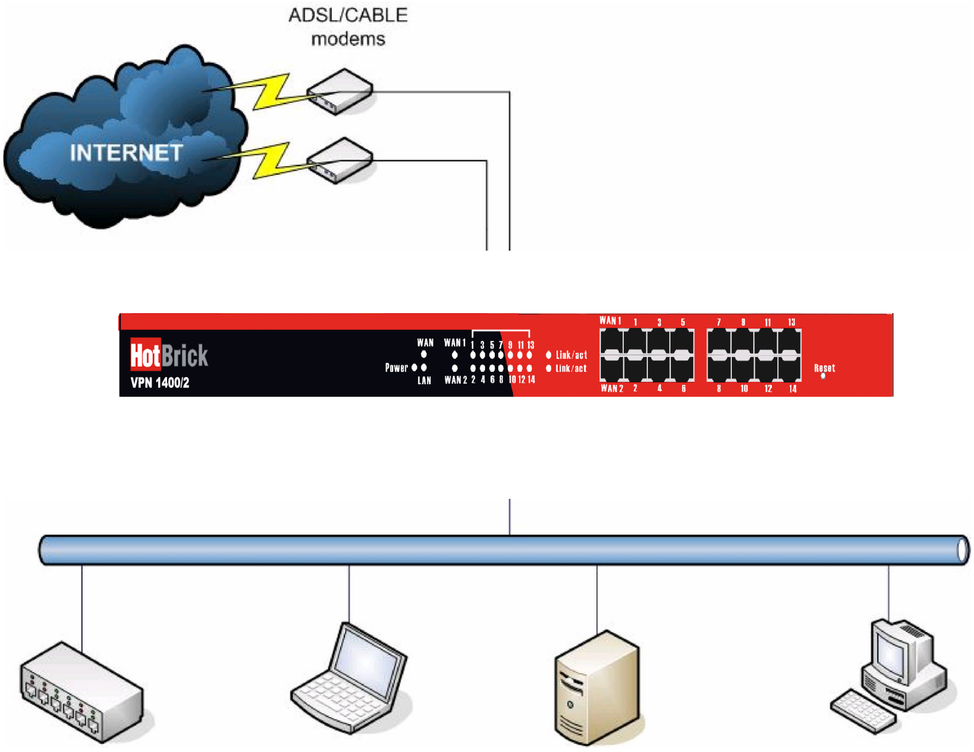


Figure 1-1: Dual WAN VPN Firewall

Internet Features

□ ***Dual WAN ports***

There are 2 WAN ports available for use on the Dual WAN VPN Firewall. They can function for load-balancing and failover.

□ ***Shared Broadband Internet Access***

All LAN users can access the Internet through the Dual WAN VPN Firewall by sharing two Broadband modems and connections.

□ ***High-Performance multi ADSL Modem Support***

The Dual WAN VPN Firewall has two WAN ports, allowing the connection of up to two broadband modems at the same time.
This can provide a greater increase in bandwidth than is allowed by a single modem.
Flexible configuration allows each WAN port to use a different type of modem and connection. Additionally, you can determine how the Internet traffic is shared between the 2 modems.

- ***Supports all common Connection Methods***

  All popular DSL and Cable Modems and connection methods are supported, including Fixed IP, Dynamic IP, PPPoE, and PPTP.

- ***Outbound/Inbound Traffic Load Balancing and Failover***

  There are many load-balancing methods to allow administrators to manage the traffic from LAN or WAN to maximize bandwidth usage. There are also smart health check methods to protect against connection failure by using failover.

- ***PPPoE Session Management***

  Multiple PPPoE sessions are supported and you can choose to "map" sessions to individual PCs if desired.

- ***Multiple IP Address Support***

  If your ISP allocates you multiple public IP addresses, you can "map" them to internal PCs if desired.

- ***Special Application***

  This feature allows you to use some non-standard applications, where the port number used to reply is not the same port number used by the sender.

- ***Virtual Server***

  This feature allows Internet users to access your internal Internet servers on your LAN. For standard servers such as Web, FTP or E-Mail servers, only the IP address of the server PC is required. You can also define you own Server types if needed.

- ***Multiple DMZ***

  A "DMZ" PC will receive incoming connection requests that would normally be blocked. For each IP address allocated by your ISP, a separate "DMZ" PC can be specified. So if your ISP has provided multiple IP addresses, you can have multiple "DMZ" PCs. Each "DMZ" PC has unrestricted 2-way Internet access. This allows you to run programs that are otherwise incompatible with NAT routers like the Multi-WAN VPN Link Balancer.

- ***Access Filter***

  The network administrator can use the Access Filter to gain fine control over Internet access and applications available to LAN users. Five (5) user groups are available, and each group can be assigned unique access rights.

- ***Block URL***

  Use this feature to block access to undesirable Web sites by LAN users. You can even have different settings for different groups of PCs.

- ***Session Limit***

  With the Session Limit feature, when the number of new sessions for the system exceeds the maximum in the sampling time, any new session in the system will be dropped.

- ***System Filter Exception***

  The firewall rejects every packet with an unrecognized port to avoid port scans by hackers. This requires exception handling in situations where some servers (e.g. SMTP server port 113) or clients need to respond to non-standard packets to indicate aliveness to their communication peers.

- ***VPN (Virtual Private Network)***

  Up to 50 VPN tunnels are supported, with a fail-over mechanism.

Other Features

□ ***16-Port Switching Hub***

The Dual WAN VPN Firewall incorporates a 16-port 10 /100BaseT switching hub that allows you to quickly create or extend your LAN.

□ ***DHCP Server Support***

Dynamic Host Configuration Protocol provides dynamic IP addresses to PCs and other devices upon request. The Dual WAN VPN Firewall can act as a **DHCP Server** for devices on your local LAN.

□ ***Multi Segment LAN Support***

LANs containing one or more segments are supported, via the Multi-WAN VPN Load Balancer's built-in static routing table or LAN ANY IP settings.

□ ***Easy Setup***

Use your favorite WEB browser for configuration.

□ ***Remote Management***

The Dual WAN VPN Firewall can be managed from any PC on your LAN. If the Internet connection is active, the unit can also (optionally) be configured via the Internet.

□ ***Password - protected Configuration***

Optional password protection is provided to prevent unauthorized users from modifying the configuration data and settings.

□ ***HTTP Firmware Upgrade and backup***

The web management feature allows you to use HTTP to upgrade new firmware and backup the system configuration from the local or even from the remote site (as long as you enable "Remote Upgrade" and "Remote web-based setup" from the Advanced Feature web page).

□ ***Email Alert***

A warning email can be sent to the system administrator if one of the WAN ports drops provided two WAN ports are enabled. Also, there is excessive ping notification available.

□ ***Syslog***

Real time system information can be generated on the web page or a particular machine. This is very useful when monitoring the device.

□ ***QoS Configuration.***

This function gives specified packets a higher priority for pass-through. This is especially useful if you have real-time applications like Internet phone, video conference etc.

□ ***UPnP***

If UPnP (Universal Plug & Play) is set to "Enable", the Dual WAN VPN Firewall becomes one of the network devices. This is useful for discovering and controlling network devices, such as the Internet gateway.

Package Contents

The following items should be included:

□ The Dual WAN VPN Firewall Unit

□ Power Cord

□ Quick Installation Guide

□ CD-ROM containing the on-line manual.

Note: If any of the above items are damaged or missing, please contact your dealer immediately.

Physical Details

Front Panel

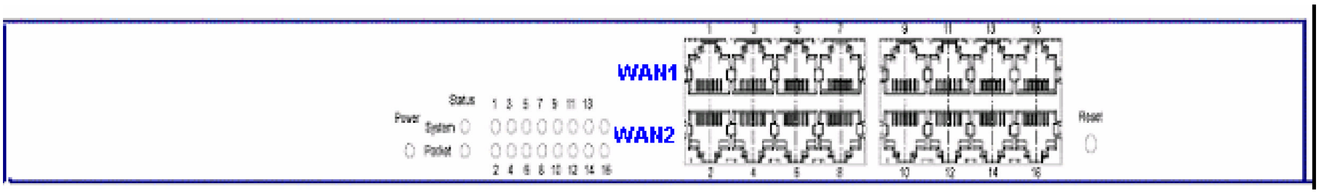


Figure 1-2: Front Panel

Operation of the Front Panel LED's is as follows :

Power	OFF – No Power ON – Normal Operation
Status	ON/OFF – Error
System	Blinking – Normal Operation.
Packets	Blinking – Packets Active ON/OFF – No Packet
Ethernet	Green ON – 100M Linked Yellow ON – 10M Linked Blinking – Data Transmit / Receive. OFF – Not Linked

Ethernet Ports and Reset Bottom

Ethernet Ports	WAN ports: 2 are available for WAN connections. LAN ports: the remaining ports are for LAN (device or hub) usage. Note: Use an Ethernet cable to connect to a normal port or another hub.
Reset Button	When pressed and released, the Dual WAN VPN Firewall will reboot (restart) within 1 second. It will reset to factory default settings after you press and hold the reset button over 3 seconds

Some Status and Error conditions are indicated by combinations of LED’s, as shown below

LED Action	Condition
Status – System & Packets flash alternatively.	Firmware Download in progress.
Status – System & Packets flash concurrently.	MAC address not assigned.
Status – System (Solid Off) & Packets (Solid On)	SDRAM error
Status – System (Solid Off) & Packets (Flash once)	Timer/Interrupt error
Status – System (Solid Off) & Packets (Flash twice)	LAN/WAN error

Rear Panel

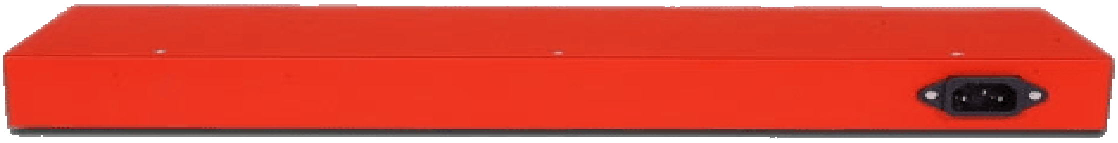


Figure 1-3: Rear Panel

AC 100V ~ 240V	Connect to AC100~240V / 50~60Hz with AC power cord.

Default Settings

When the Dual WAN VPN Firewall has finished booting, all configuration settings will initially be set to the factory defaults, including:

- *IP Address* set to its default value of 192.168.1.1, with a *Network Mask* of 255.255.255.0
- *DHCP Server* is enabled
- *User Name: admin*
- Password cleared (no password)

TFTP Download

This setting should be used only if your Dual WAN VPN Firewall interface can't be accessed, and you wish to restore it by uploading new firmware. In that case use the following procedure:

1. Power on the Dual WAN VPN Firewall.
2. Use the supplied Windows utility or a TFTP client program to apply the new firmware. If you are using the supplied Windows TFTP program, the screen will look like the following example.

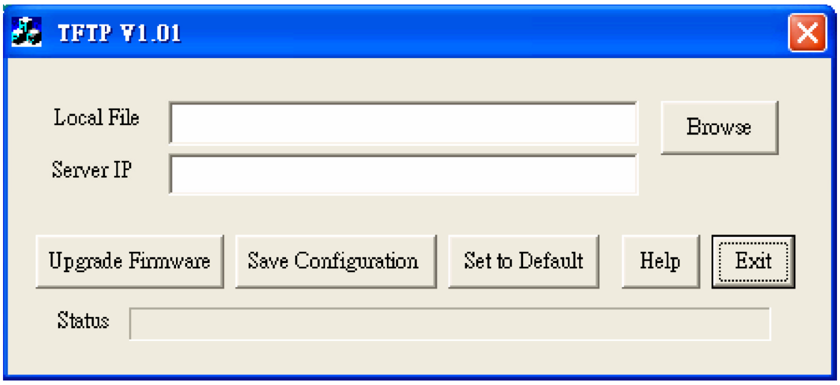


Figure 1-4: Windows TFTP utility

- Enter the name of the firmware upgrade file on your PC, or click the "Browse" button to locate the file.
- Enter the LAN IP address of the Dual WAN VPN Firewall in the "Server IP" field.
- Click "Upgrade Firmware" to send the file to the Multi-WAN VPN Link Balancer.

3. When uploading is finished the unit should function normally, **using the default settings.**

Note:

The supplied Windows TFTP utility also allows you to perform three (3) additional operations:

- Save the current configuration settings to your PC (use the "Save Configuration" button).
- Restore a previously saved configuration file to the Dual WAN VPN Firewall (use the "Upgrade Firmware" button).
- Set the Dual WAN VPN Firewall to its default values (use the "Set to Default" button).

2: Quick Installation

Overview

Initial Basic Setup of your Dual WAN VPN Firewall involves the following steps:

1. Attach a PC to the Dual WAN VPN Firewall in port 3 ~ 16, and configure your LAN.
2. Install your Dual WAN VPN Firewall in your LAN, and connect the Broadband Modem or Modems.
3. Configure your Dual WAN VPN Firewall for Internet Access.
4. Configure PCs on your LAN to use the Dual WAN VPN Firewall.

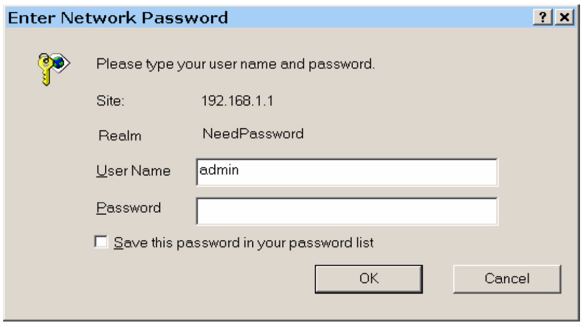
Requirements

- 1 or 2 WAN connections, each with an active Internet Access account with an ISP.
- Network cables. Use standard 10/100BaseT network (UTP) cables with RJ45 connectors.
- TCP/IP network protocol must be installed on all PCs.

Procedure

1: Configuring the Dual WAN VPN Firewall for your LAN

1. Use a standard LAN cable to connect your PC to any LAN port (3 -16) on the Dual WAN VPN Firewall. (Default 2 WAN ports from port 1 – 2)
2. Connect the power cord into a power outlet on the rear panel of Dual WAN VPN Firewall.
3. Start your PC. If your PC is already running, restart it. It will then obtain an IP address from the Dual WAN VPN Firewall.
4. Start your WEB browser.
5. In the *Address* or *Location* box enter: HTTP://192.168.1.1
6. You will be prompted for the User Name and password, as shown below.



Enter Network Password

Please type your user name and password.

Site: 192.168.1.1

Realm NeedPassword

User Name: admin

Password:

☐ Save this password in your password list

Figure 2-1: Password Dialog

Enter *admin* for the "User Name" and leave the "Password" blank.

- The "User Name" is always *admin.*
- You can and should set a password, using the following ***Admin Password*** screen.

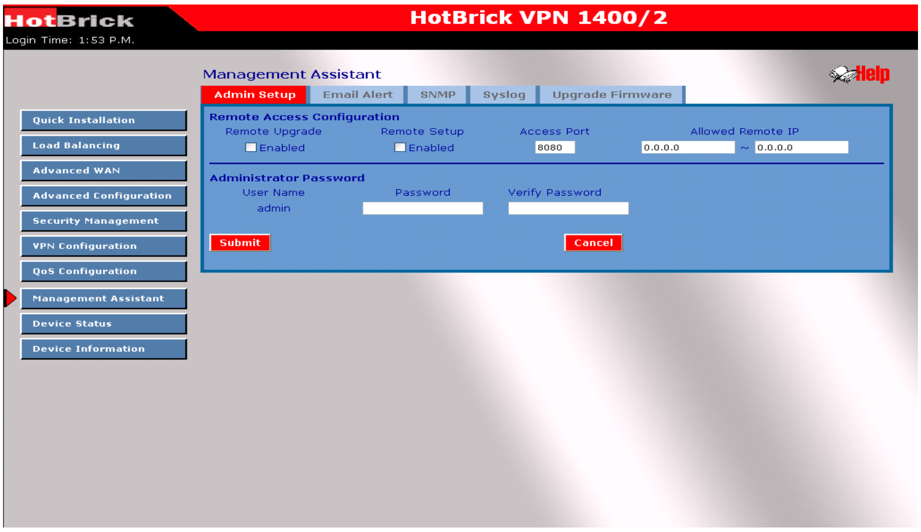
No Response?

□ Is your PC using a Fixed IP address?

If so, you must configure your PC to use an IP address within the range 192.168.1.2 to 192.168.1.254, with a *Network Mask* of 255.255.255.0. See *Appendix B – Windows TCP/IP Setup* for details.

□ Check that the Dual WAN VPN Firewall is properly installed, LAN connection is OK, and it is powered ON.

7 After the login, you will see the ***Admin Password*** screen, as shown below. Assign a password by entering it in the "Password" and "Verify Password" Fields.



Login Time: 1:53 P.M.

Management Assistant

Remote Access Configuration

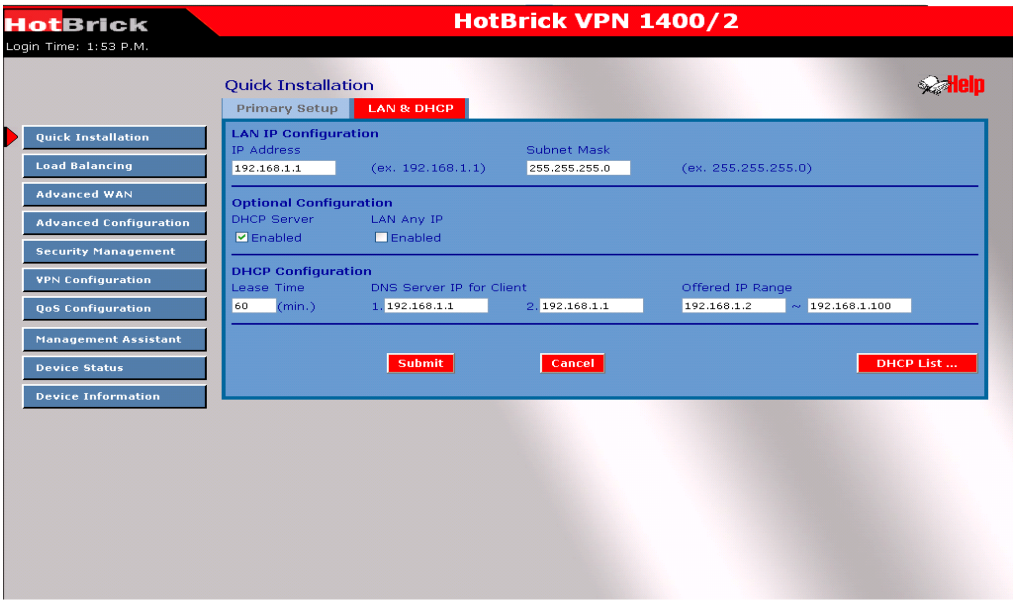
Remote Upgrade	Remote Setup	Access Port	Allowed Remote IP
□ Enabled	□ Enabled	8080	0.0.0.0 ~ 0.0.0.0

Administrator Password

User Name	Password	Verify Password
admin		

Figure 2-2: Home Screen (Admin. Setup)

8. Select ***LAN & DHCP*** from the menu. You will see a screen like the example below.



LAN IP Configuration

IP Address: 192.168.1.1 (ex. 192.168.1.1)

Subnet Mask: 255.255.255.0 (ex. 255.255.255.0)

Optional Configuration

DHCP Server: ☑ Enabled

LAN Any IP: □ Enabled

DHCP Configuration

Lease Time: 60 (min.)

DNS Server IP for Client: 1. 192.168.1.1 2. 192.168.1.1

Offered IP Range: 192.168.1.2 ~ 192.168.1.100

Figure 2-3: LAN & DHCP Setup

9. If your LAN already has a DHCP Server, and you wish to continue to use it, the following configuration is required.

- The DHCP Server function in the Dual WAN VPN Firewall must be **disabled.** This setting is on the ***LAN & DHCP*** screen.
- Your DHCP Server must be configured to provide the Dual WAN VPN Firewall LAN IP address as the "Default Gateway".
- Your DHCP Server must provide correct DNS addresses to the PCs.

10. Ensure these settings are suitable for your LAN.

11. The default settings are suitable for many situations.

12. See the following table for details of each setting.

Save your data, then go to *Installing the Dual WAN VPN Firewall in your LAN.*

Installing the Dual WAN VPN Firewall on your LAN

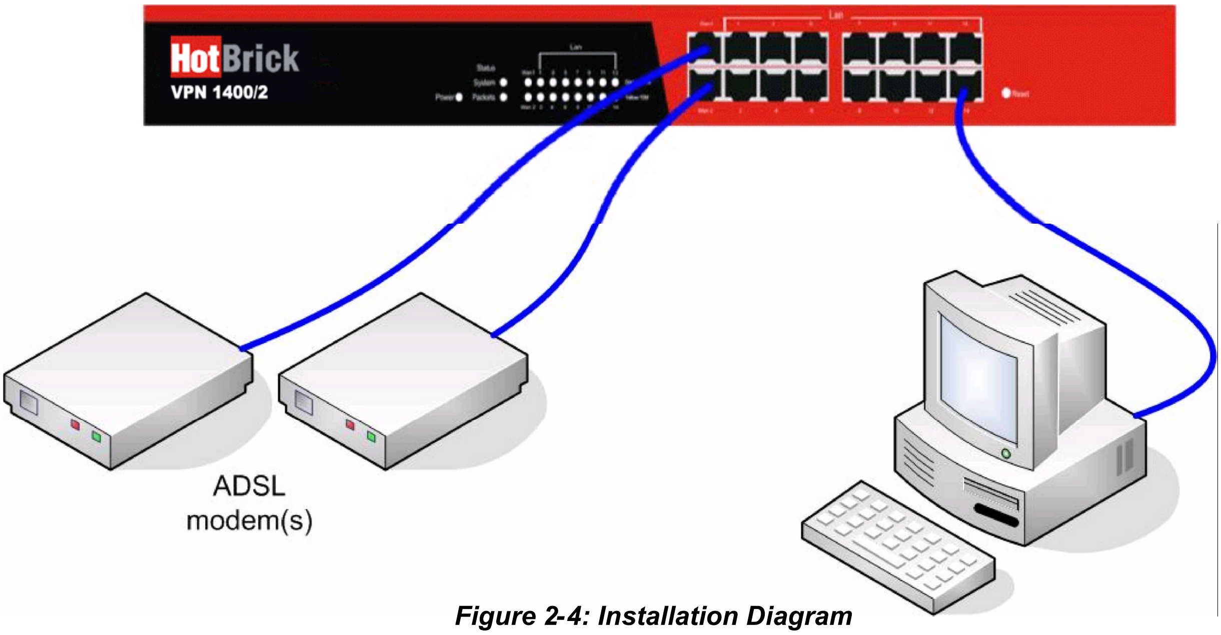


Figure 2-4: Installation Diagram

13. Ensure the Dual WAN VPN Firewall and the DSL/Cable modem are powered OFF. Leave the modem or modems connected to their data line.

14. Connect the Broadband modem or modems to the Dual WAN VPN Firewall.

□ If using only one (1) Broadband modem, connect it to WAN port 1.

□ Use the cable supplied with your DSL/Cable modem. If no cable was supplied, use a standard cable.

15. Use standard LAN cables to connect PCs to the LAN ports on the Dual WAN VPN Firewall.

□ Both 10BaseT and 100BaseT connections can be used simultaneously.

□ If you need to connect the Dual WAN VPN Firewall to another Hub, use a standard LAN cable to connect any LAN port on the Dual WAN VPN Firewall to a standard port on another hub. Any LAN port on the Dual WAN VPN Firewall will automatically act as an "Uplink" port when required.

□ If a device is set to 2 WAN ports from port 1 to 2, the others are LAN ports from port 3 to 16.

16. Power Up

□ Power on the Cable or DSL modem or modems.

□ Connect the supplied power cord to the Dual WAN VPN Firewall and power up.

17. Check the LEDs

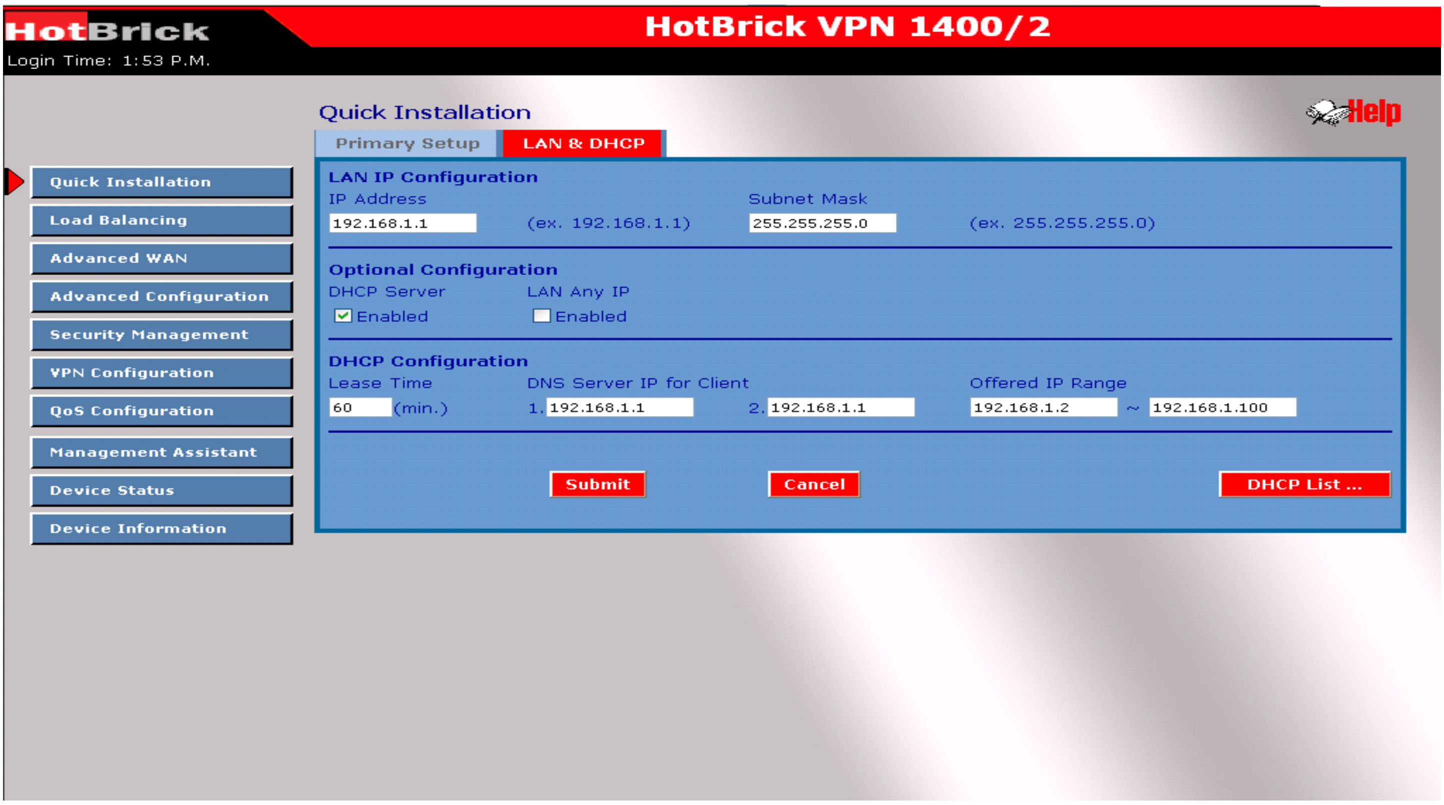
□ The ***Power*** LED should be ON.

□ The ***Link/ACT*** LED should be ON, if the corresponding WAN port is connected to a broadband modem.

□ For each PC connected to the LAN ports, the corresponding ***LAN*** LED (either ***10/Yellow*** or ***100/Green)*** should be ON.

3. Quick Installation - LAN & DHCP

Select ***LAN & DHCP*** from the menu. You will see a screen like the example below.



LAN IP Configuration

IP Address: 192.168.1.1 (ex. 192.168.1.1)

Subnet Mask: 255.255.255.0 (ex. 255.255.255.0)

Optional Configuration

DHCP Server: ☑ Enabled

LAN Any IP: □ Enabled

DHCP Configuration

Lease Time: 60 (min.)

DNS Server IP for Client: 1. 192.168.1.1 2. 192.168.1.1

Offered IP Range: 192.168.1.2 ~ 192.168.1.100

Figure 3-1: LAN & DHCP

Ensure these settings are suitable for your LAN.

□ The default settings are suitable for most networks.

□ See the following table for setting details.

LAN IP Configuration:

□ **IP address -** for the Dual WAN VPN Firewall, as seen from the local LAN. Use the default value unless the address is already in use or your LAN is using a different IP address range. In the latter case, enter an unused IP Address from within the range used by your LAN.

□ **Subnet Mask** -The default value 255.255.255.0 is standard for small (class "C") networks. For other networks, use the Subnet Mask for the LAN segment to which the Dual WAN VPN Firewall is attached (the same value as the PCs on that LAN).

DHCP server configuration :

□ **DHCP Server Setup -** If **enabled,** the Dual WAN VPN Firewall will allocate IP Addresses to PCs (DHCP clients) on your LAN when they start up. The default and recommended value is "Enable". (Windows Systems, by default, act as DHCP clients. This setting is called *Obtain an IP address automatically.)*

□ **DHCP Server Setup -** If you are already using a DHCP Server, the DHCP Server setting must be **disabled,** and the existing DHCP server must be set to provide the IP address of the VPN Dual WAN VPN Firewall as the *Default Gateway.*

□ **Client Lease Time –** This is the period of time that a DHCP server leases an IP address to a DHCP client.

DHCP IP address range

□ **Offered Range** fields set the values used by the DHCP server when allocating IP Addresses to DHCP clients. This range also determines the number of DHCP clients supported.

□ **Free Entries** indicates how many DHCP entries are not currently allocated, and available.

ARP Proxy

Enable this ONLY if the LAN port has an IP address in the same address range as the WAN port(s). This means that all PCs using this Gateway must have valid fixed external (Internet) IP addresses. If enabled, enter the IP address range used on your LAN.

LAN Any IP Setup

The default is disabled. If you enable “LAN ANY IP”, that means no matter what static IP address your client has, the client does not need to change their IP address to access the Internet. This is normally used when the client is on a different IP segment than the LAN segment.

DHCP Client List

This table shows the IP addresses that have been allocated by the DHCP Server. For each allocated address, the following information is displayed.

□ Name – The ""hostname"" of the PC. In some cases, this may not be known.

□ MAC Address – The physical address (network adapter address) of the PC.

□ IP Address – The IP address allocated to this PC.

□ Type – Indicates IP address to be dynamic or static.

□ Status – If leased the IP address was allocated by this DHCP Server.

□ Time Left – The time left before the lease expires

Quick installation - Primary setup

Connection mode

□ **Enable** Select this if you have connected a broadband modem to this port.

□ **Disable –** Select this if there is no broadband modem connected to this port.

□ **Backup –** Use this if you have a broadband modem on each port, and wish to normally use only one. Select *Enable* for the primary port, and *Backup* for the secondary port. The *Backup* port will only be used if the primary port fails.

Connection type (Check the data supplied by your ISP, and select the appropriate option)

□ **Static IP** Select this if your ISP has provided a Fixed or Static IP address. Then enter the data into the *Address Info* fields.

□ **Dynamic IP** Select this if your ISP provides an IP address automatically when you connect. You can ignore the *Address Info* fields.

□ **PPPoE –** Select this if your ISP uses this method. (Usually, your ISP will provide some PPPoE software. This software is no longer required, and should not be used.) When this method is selected, you must complete the *PPPoE dialup* fields.

Note: If using the PPTP connection method, select *Static IP* or *Dynamic IP,* as appropriate, according to the IP address method used by your ISP.

Address Info

This is for *Static IP* users only. Enter the address information provided by your ISP. If your ISP provided multiple IP addresses, you can use the ***Multi-DMZ***

DNS

This is for *Static IP* users only. Enter the address information provided by your ISP. If your ISP provided multiple IP addresses, you can use the ***Multi-DMZ***

Optional

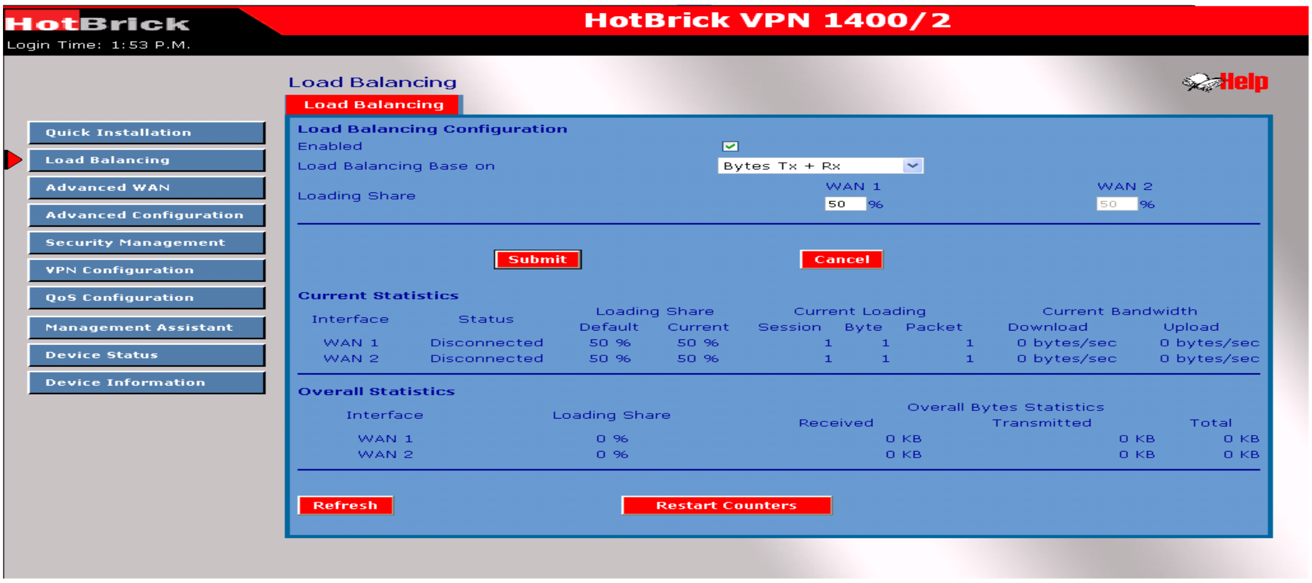
□ **Host name –** This is required by some ISPs. If your ISP provided a Host Name, enter it here. Otherwise, you can use the default value.

□ **Domain name –** This is required by some ISPs. If your ISP provided a Domain Name, enter it here. Otherwise, you can use the default value.

□ **MAC address –** Some ISP's record your MAC address (also called "Physical address" or "Network Adapter address"). If so, you can enter the MAC address required by your ISP in this field. Otherwise, this should be left at the default value.

3 : Loadbalancing

This screen is only operational if using Internet connections on both WAN ports



Load Balancing Configuration

Enabled ☑

Load Balancing Base on: Bytes Tx + Rx

Loading Share: WAN 1 50 % WAN 2 50 %

Current Statistics

Interface	Status	Loading Share		Current Loading			Current Bandwidth	
		Default	Current	Session	Byte	Packet	Download	Upload
WAN 1	Disconnected	50 %	50 %	1	1	1	0 bytes/sec	0 bytes/sec
WAN 2	Disconnected	50 %	50 %	1	1	1	0 bytes/sec	0 bytes/sec

Overall Statistics

Interface	Loading Share	Overall Bytes Statistics		
		Received	Transmitted	Total
WAN 1	0 %	0 KB	0 KB	0 KB
WAN 2	0 %	0 KB	0 KB	0 KB

Figure 3-2: Load Balance

Load balancing – Load Balancing

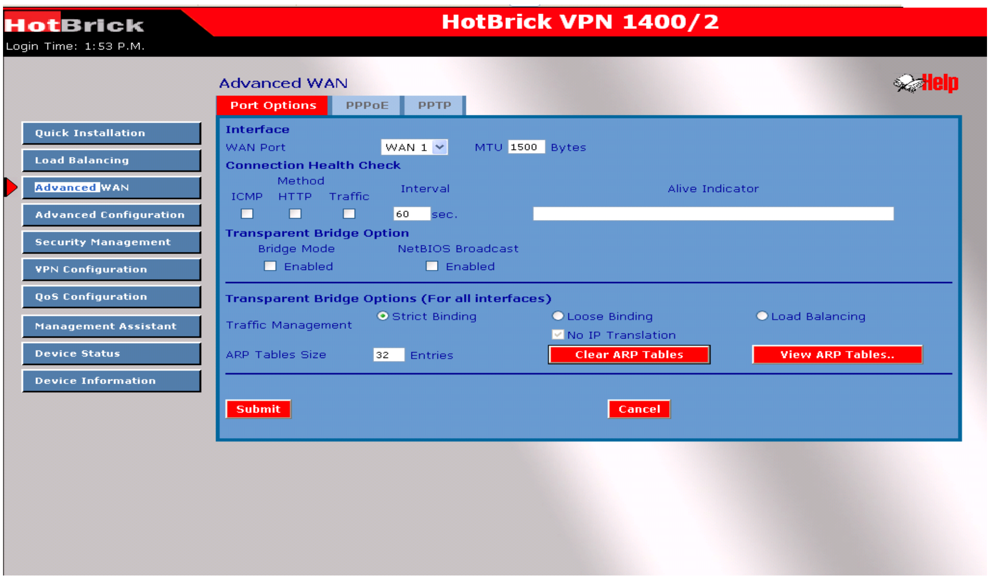
- **Enable –** Use this to enable your Load Balance settings. Unless this is checked, the other settings on this screen have no effect.
- **Balance Type –** Select the desired option:

  Bytes rx+tx – Traffic is measured by Bytes.
  Packets rx+tx – Traffic is measured by Packets.
  Sessions established – Traffic is measured by Sessions.
  IP Address – Traffic is measured by IP Address.
- **Loading Share on WAN 1 –** Enter the percentage (%) of traffic to be sent over WAN 1. If one WAN port connection has greater bandwidth than the other, the one with the greater bandwidth should be given a higher percentage of traffic than the other.

NAT statistics This section displays the current data about WAN 1 and WAN 2. You can use this information to help you "fine-tune" the settings above.

Interface statistics This section displays cumulative statistics. Use the "Restart Counters" button to restart these counters when required.

4 : Advanced WAN



Advanced WAN

Interface
WAN Port: WAN 1 MTU 1500 Bytes

Connection Health Check
Method: ICMP □ HTTP □ Traffic □
Interval: 60 sec.
Alive Indicator:

Transparent Bridge Option
Bridge Mode: □ Enabled
NetBIOS Broadcast: □ Enabled

Transparent Bridge Options (For all interfaces)
Traffic Management: ● Strict Binding ○ Loose Binding ○ Load Balancing
☑ No IP Translation
ARP Tables Size: 32 Entries

Port options

Connection validation

- **Health Check –** If disabled, the Alive Indicator Check is not performed. The default is enabled. Health checking is performed by ICMP echo request and HTTP packets to the specified destination that could be either: the Name or IP Address the user specified in the "Alive Indicator" input box or the gateway of the WAN interface used if "Alive Indicator" input box is blank.

- **Alive Indicator –** This is the IP address used to check if the WAN connection is operating. The Dual WAN VPN Firewall will contact this system to check if the WAN connection is working. Change this address if you wish. Default is the gateway IP. **Note:** This is not used for PPPoE connections.

- **MTU –** The Maximum Transmission Unit determines the packet size to be used on the WAN interface. Normally, this does not need to be changed, but if your ISP advises you to use a specific MTU, enter it here.

Transparant bridge option

□ **Bridge Mode –** If set to Enable, this WAN port does not use NAT or the Load Balance function when both the LAN and WAN have real IP addresses on the same network segment.

□ **NetBIOS Broadcast –** This function allows you to access files through Microsoft Network Neighborhood if it is enabled.

□ **Traffic Management**

Strict Binding: traffic from bridged hosts (eg. transparent to WAN 1) can only go through that specified WAN(eg. WAN 1) interface.

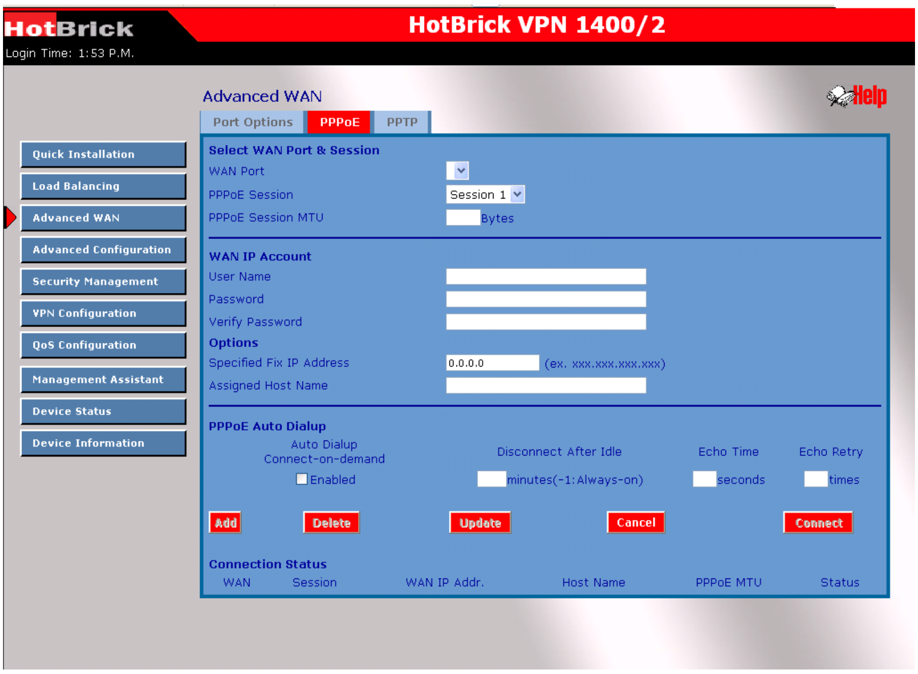
Loose Binding: Traffic from bridge hosts (eg. transparent to WAN 1) can go thru the alternative WAN (eg.WAN 2) interface when bind interface (eg. WAN 1) is down, it acts like a fail over mechanism for transparent bridge mode.

Load Balancing: Traffic from bridge hosts (eg. transparent to WAN 1) can go thru either WAN (eg. WAN 1 or WAN 2) interface based on loading mechanism specified in the load balance section, it's acting like as a load balancing mechanism for transparent bridge mode.

□ **ARP Table** – the ARP table is used by the device to determine the bridge hosts' location (eg. inside/outside WAN and which WAN). Its size can be adjusted if needed. **View ARP Tables** displays ON/OFF for bridge mode on each WAN port. **Clear ARP Tables** disables bridge mode on all WAN ports.

The screen is required in order to use multiple PPPoE sessions on the same WAN port. It can also be used to manually connect or disconnect a PPPoE session.

Advanced WAN – PPPoE



Advanced WAN

Select WAN Port & Session

WAN Port

PPPoE Session: Session 1

PPPoE Session MTU: Bytes

WAN IP Account

User Name

Password

Verify Password

Options

Specified Fix IP Address: 0.0.0.0 (ex. xxx.xxx.xxx.xxx)

Assigned Host Name

PPPoE Auto Dialup

Auto Dialup Connect-on-demand	Disconnect After Idle	Echo Time	Echo Retry
☐ Enabled	minutes(-1:Always-on)	seconds	times

Connection Status

WAN	Session	WAN IP Addr.	Host Name	PPPoE MTU	Status

Select WAN port & Session

WAN Port – Selected WAN port using the PPPoE connection

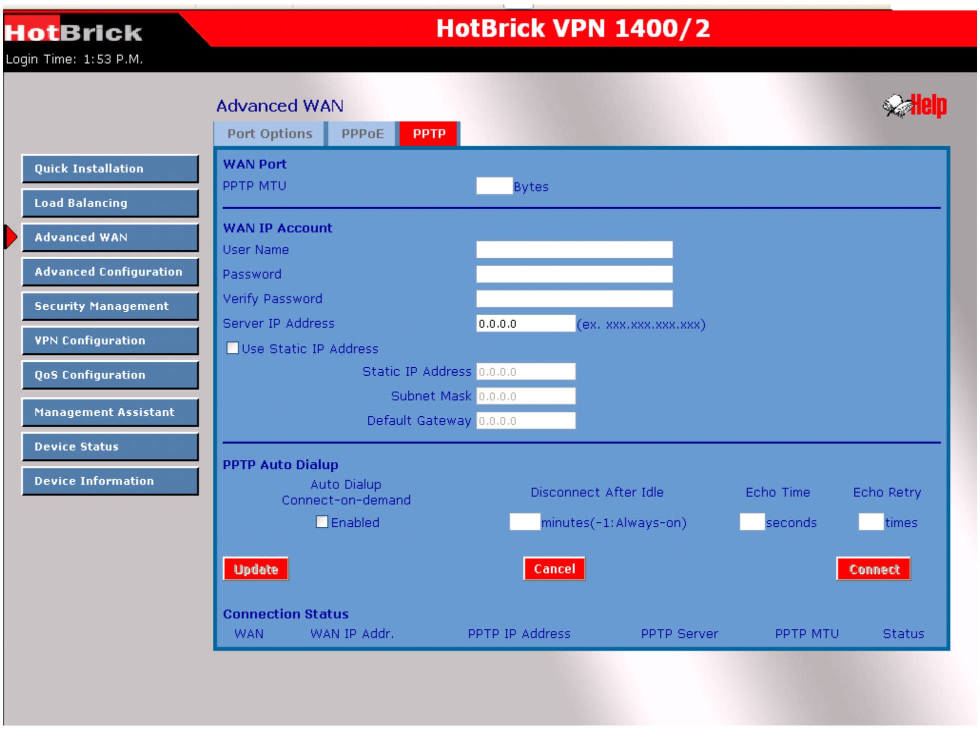
PPPoE Session – Usually the ISP provides multiple floating real IPs for PPPoE. Each WAN port can have up to 8 PPPoE sessions with different IP addresses, if your WAN port is using a PPPoE connection.

PPPoE Session MTU – The Maximum Transfer Unit for PPPoE packet data. Leave it at the default, unless the ISP specifies a different PPPoE packet data size. The default value of MTU is 1492 bytes.

WAN IP Account

- **User Name** – Enter the PPPoE user name assigned by your ISP.
- **Password** – Enter the PPPoE password assigned by your ISP.
- **Verify Password** – Re-enter the PPPoE password assigned by your ISP.

Advanced WAN PPTP



Advanced WAN

WAN Port
PPTP MTU [ ] Bytes

WAN IP Account
User Name [ ]
Password [ ]
Verify Password [ ]
Server IP Address 0.0.0.0 (ex. xxx.xxx.xxx.xxx)
□ Use Static IP Address
Static IP Address 0.0.0.0
Subnet Mask 0.0.0.0
Default Gateway 0.0.0.0

PPTP Auto Dialup

Auto Dialup Connect-on-demand	Disconnect After Idle	Echo Time	Echo Retry
□ Enabled	[ ] minutes(-1:Always-on)	[ ] seconds	[ ] times

Connection Status

WAN	WAN IP Addr.	PPTP IP Address	PPTP Server	PPTP MTU	Status

Advanced WAN

WAN Port - Select the desired WAN port (click desired WAN on Connection Status). The data of the selected port will then be displayed in the *WAN IP Account* section.
PPTP MTU – Maximum transfer unit for PPTP. The default value is 1460

WAN IP Account

□ **User Name** – The PPTP user name (login name) assigned by your ISP.

□ **Password** – The PPTP password associated with the *User Name* above. This is assigned by your ISP, and used to login to the PPTP Server.

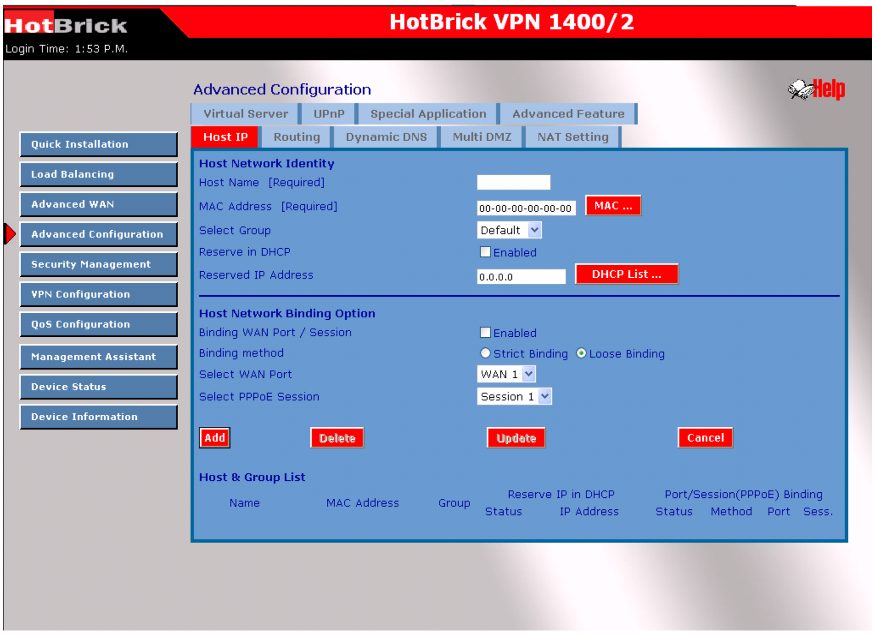
□ **Verify Password** – Re-enter the PPTP password assigned by your ISP.

□ **Server IP Address** – Enter the IP address of the PPTP Server, as provided by your ISP.

□ **Static IP Adress –** If you have a fixed IP address enter it here. Otherwise this field should be left at 0.0.0.0

Connection Status – This displays the current PPTP connection status.

5 : Advanced Configuration



HotBrick VPN 1400/2

Login Time: 1:53 P.M.

Advanced Configuration

Host Network Identity

Host Name [Required]	
MAC Address [Required]	00-00-00-00-00-00 MAC ...
Select Group	Default
Reserve in DHCP	□ Enabled
Reserved IP Address	0.0.0.0 DHCP List ...

Host Network Binding Option

Binding WAN Port / Session	□ Enabled
Binding method	○ Strict Binding ● Loose Binding
Select WAN Port	WAN 1
Select PPPoE Session	Session 1

Host & Group List

Name	MAC Address	Group	Reserve IP in DHCP		Port/Session(PPPoE) Binding			
			Status	IP Address	Status	Method	Port	Sess.

Advanced configuration – Host IP

This feature is used in the following situations:

- You have Multi-Session PPPoE, and wish to bind each session to a particular PC on your LAN.
- You wish to use the ***Access Filter*** feature. This requires that each PC is identified by using the ***Host IP*** screen.
- You wish to have different ***Block URL*** settings for different PCs. This requires that each PC is identified by using the ***Host IP*** screen. (You do not have to use the Host IP feature to apply the same ***Block URL*** settings to all PCs.)
- You wish to reserve a particular (LAN) IP address for a particular PC on your LAN. This allows the PC to use DHCP (Windows calls this "Obtain an IP address automatically") while gaining the benefits of a fixed IP address. The PC's IP address will never change, so it can be accessed by other people and applications.

Host IP – Host Network Identity

Host network identity

This section identifies each Host (PC)

- **Host name** – Enter a suitable name. Generally, you should use the "Hostname" (computer name) defined on the Host itself.
- **MAC Address** – Also called *Physical Address* or *Network Adapter Address.* Enter the MAC address of this host.
- **Select Group** – Select the group you want this host to join.

- **Reserve in DHCP** – Select *Enable* to reserve a particular (LAN) IP address for a particular PC on your LAN. This allows the PC to use DHCP (Windows calls this "obtain an IP address automatically") while having an IP address that never changes.
- **Reserved IP Address** – Enter the IP address you wish to reserve, if the setting above is *Enable.* Otherwise, ignore this field.

Host Network Binding

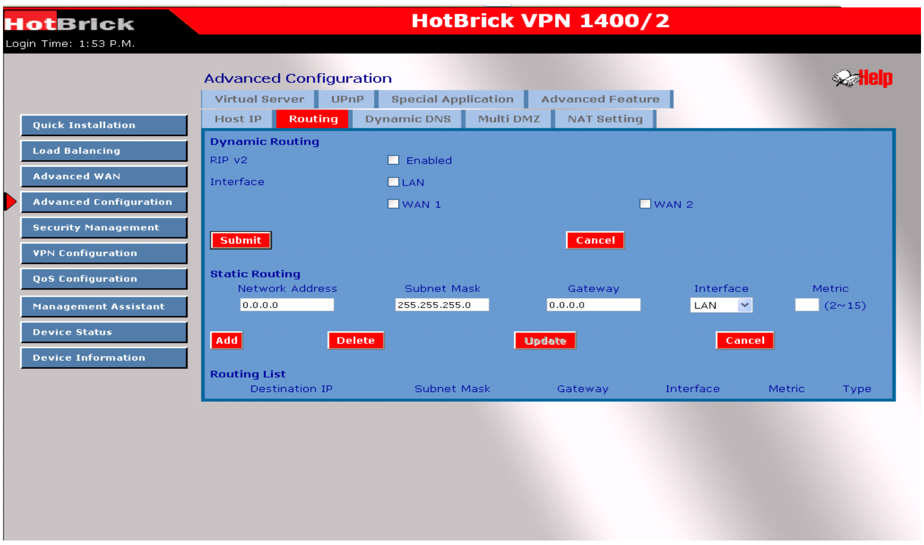
- **Binding WAN Port / Session** – Select *Enable* if you wish to associate this PC with a particular PPPoE session. All traffic for that PC will then use the selected PPPoE port and session.
- **Binding Method** – Suppose your PC is bound to WAN1 port, now you are selecting "Strict Binding". If WAN1 port is disconnected, your packets cannot go out through the other WAN port, if it is still alive. If you select "Loose Binding" then when the WAN1 port is disconnected, your packets will automatically go to the other WAN port, if it is active.
- **Select WAN Port / Select PPPoE session** – If the setting above is *Enable,* select the desired Port and Session. Otherwise, ignore these settings.
- **Note:** Multiple PPPoE sessions are defined on the ***Advanced PPPoE*** screen.

Buttons

- **Add** – Use this to add a new entry to the database, using the data shown on screen.
- **Delete** – Click this to delete the selected entry.
- **Update** – Use this to update the selected entry, after making the desired changes.
- **Reset** – Reset changes you have made since loading the data from the Multi-WAN VPN Load Balancer.

Host & Group list – This table shows the current binding.

Advanced configuration – Routing



Dynamic Routing

RIP v2 □ Enabled

Interface □ LAN □ WAN 1 □ WAN 2

Static Routing

Network Address	Subnet Mask	Gateway	Interface	Metric
0.0.0.0	255.255.255.0	0.0.0.0	LAN	(2~15)

Routing List

Destination IP	Subnet Mask	Gateway	Interface	Metric	Type

Routing

This section is only relevant if your LAN has other Routers or Gateways.

□ If you don't have other Routers or Gateways on your LAN, you can ignore the ***Static Routing*** page completely.

□ If your LAN has other Gateways and Routers, you must configure the Static Routing screen as described below. You also need to configure the other Routers.

Note:
If there is an entry or entries in the Routing table with an Index of zero (0), these are System entries. You cannot modify or delete these entries.

Dynamic routing

□ **RIP v2** – This acts as a "master" switch. If enabled, the selected WAN or LAN will run RIPv1/v2. Otherwise theRIP function is not available.

□ **Interface** – LAN, WAN1 – n, is enabled, any WAN or LAN can execute the RIP function.

Static routing

□ **Network Address** – The network address of the remote LAN segment. For standard class "C" LANs, the network address is the first 3 fields of the Destination IP Address. The 4th (last) field can be left at 0.

□ **Netmask** –The Network Mask for the remote LAN segment. For class "C" networks, the default mask is 255.255.255.0

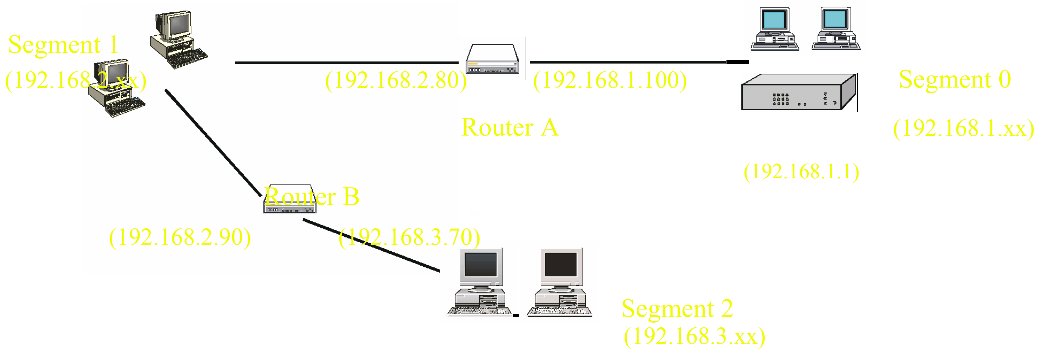
- **Gateway** – The IP Address of the Gateway or Router that the Dual WAN VPN Firewall must use to communicate with the destination above. (NOT the router attached to the remote segment.)
- **Interface** – Select the correct interface, usually "LAN". The "WAN" interface is only available if NAT (Network Address Translation) is disabled.
- **Metric** – The number of "hops" (routers) pass through to reach the remote LAN segment. The shortest path will be used.

Routing list – This shows the current routing table set by users.

Configuring Other Routers on your LAN

All traffic for devices not on the local LAN must be forwarded to the Dual WAN VPN Firewall, so that they can be forwarded to the Internet. This is done by configuring other Routers to use the Dual WAN VPN Firewall as the *Default Route* or *Default Gateway*, as illustrated by the example below.

Static Routing – example



The Dual WAN VPN Firewall Gateway's Routing Table

For the LAN shown above, with 2 routers and 3 LAN segments, the Dual WAN VPN Firewall requires 2 entries as follows.

Entry 1 (Segment 1)	
Destination IP Address	192.168.2.0
Network Mask	255.255.255.0
Gateway IP Address	192.168.1.100
Interface	LAN
Metric	2
Entry 2 (Segment 2)	
Destination IP Address	192.168.3.0
Network Mask	255.255.255.0 (Standard Class C)
Gateway IP Address	192.168.1.100
Interface	LAN
Metric	3

For Router A's Default Route

Destination IP Address	0.0.0.0
Network Mask	0.0.0.0
Gateway IP Address	192.168.1.1
Metric	2

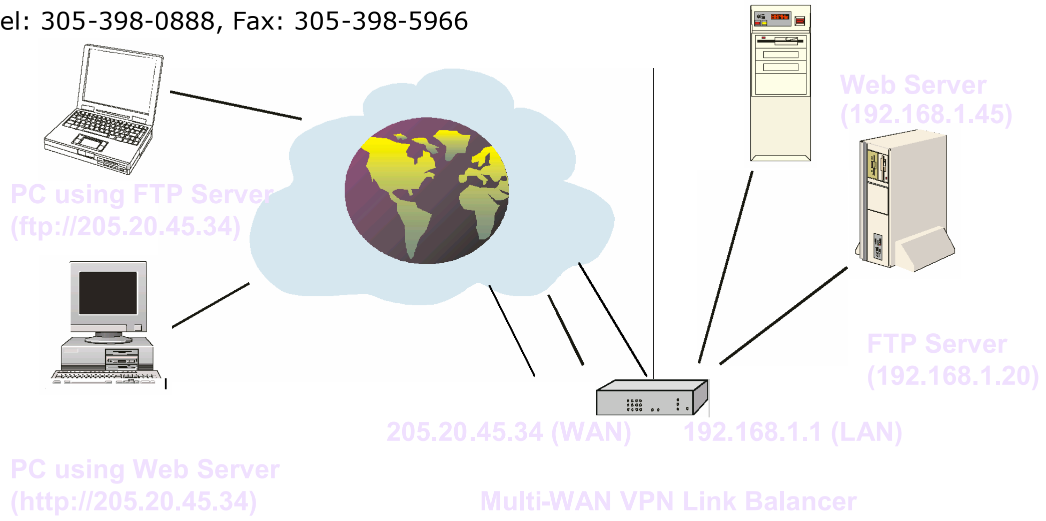
For Router B's Default Route

Destination IP Address	0.0.0.0
Network Mask	0.0.0.0
Gateway IP Address	192.168.2.80
Interface	LAN
Metric	3

Virtual Server

This feature allows you to make Servers on your LAN accessible to Internet users. Normally, Internet users are not able to access a server on your LAN because:

- Your Server's IP address is only valid on your LAN, not on the Internet.
- Attempts to connect to devices on your LAN are blocked by the firewall in the Dual WAN VPN Firewall. The "Virtual Server" feature solves these problems and allows Internet users to connect to your servers, as illustrated below.



Note that, in this illustration, both Internet users are connecting to the same IP Address, but using different protocols.

Connecting to the Virtual Server

Once configured, anyone on the Internet can connect to your Virtual Servers. They must use the Dual WAN VPN Firewall Internet IP Address (the IP Address allocated by your ISP). e.g.

http://205.20.45.34
ftp://205.20.45.34

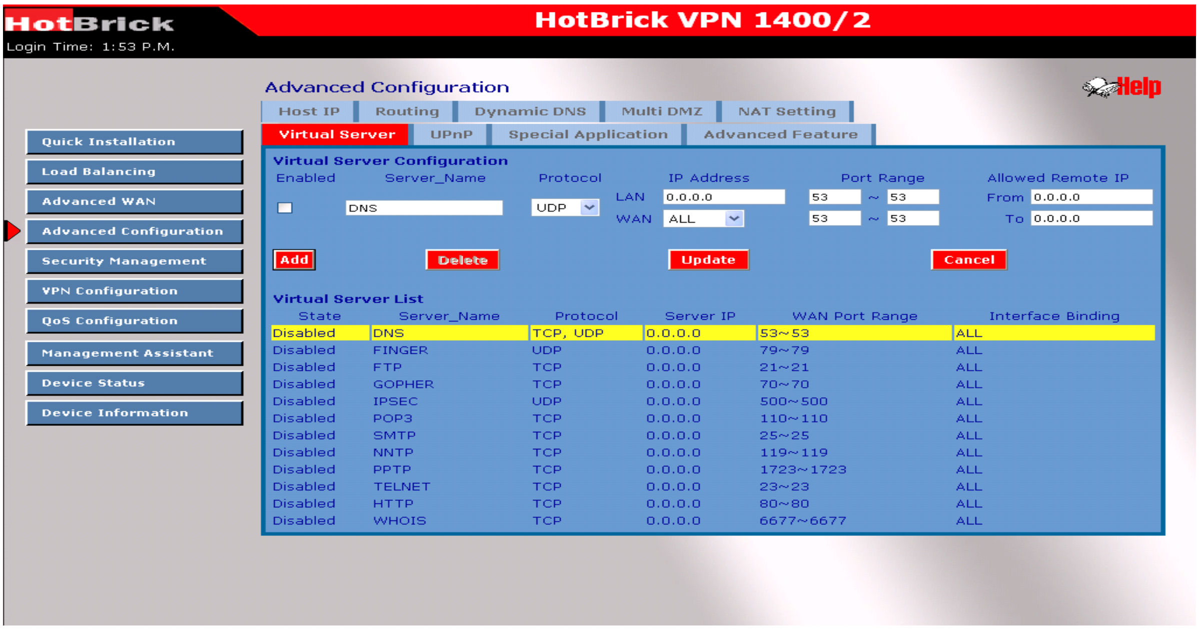
□ To Internet users, all virtual Servers on your LAN have the same IP Address. This IP Address is allocated by your ISP.

□ This address should be static, rather than dynamic, to make it easier for Internet users to connect to your Servers. However, you can use the *Dynamic DNS* feature (explained later in this chapter) to allow users to connect to your Virtual Servers using a URL, instead of an IP Address.
e.g.

□

Advanced configuration – virtual server

This screen allows you to define your own Server types:



Advanced Configuration

Virtual Server Configuration

Enabled	Server_Name	Protocol		IP Address	Port Range		Allowed Remote IP	
□	DNS	UDP	LAN	0.0.0.0	53 ~ 53		From	0.0.0.0
			WAN	ALL	53 ~ 53		To	0.0.0.0

Virtual Server List

State	Server_Name	Protocol	Server IP	WAN Port Range	Interface Binding
Disabled	DNS	TCP, UDP	0.0.0.0	53~53	ALL
Disabled	FINGER	UDP	0.0.0.0	79~79	ALL
Disabled	FTP	TCP	0.0.0.0	21~21	ALL
Disabled	GOPHER	TCP	0.0.0.0	70~70	ALL
Disabled	IPSEC	UDP	0.0.0.0	500~500	ALL
Disabled	POP3	TCP	0.0.0.0	110~110	ALL
Disabled	SMTP	TCP	0.0.0.0	25~25	ALL
Disabled	NNTP	TCP	0.0.0.0	119~119	ALL
Disabled	PPTP	TCP	0.0.0.0	1723~1723	ALL
Disabled	TELNET	TCP	0.0.0.0	23~23	ALL
Disabled	HTTP	TCP	0.0.0.0	80~80	ALL
Disabled	WHOIS	TCP	0.0.0.0	6677~6677	ALL

Virtual Server Configuration

- **Enable** – The enable checkbox enables or disables each Virtual server as required.
- **Server Name** – Enter a name for this server. (By default, there are 12 well-known virtual servers on the Custom Virtual Server List that you may use.)
- **Protocol** – Select the network protocol (TCP/UDP) used by this sever.
- **IP Address** – **LAN,** Enter the IP address of the server on your LAN which is running the required Server software.
  Each Host (server) should have a fixed IP address, or a reserved IP address. (See the ***Host IP*** section earlier in this Chapter for details on reserving an IP address.)
  Each Host (server) must be running the appropriate Server software
- **WAN** – This selection allows this server to bind to any selected WAN port, or to bind all WAN ports together.

- **LAN Port Range** – Enter the range of port numbers used for outgoing traffic from this Server. If only a single port is required, enter it in both fields.
- **WAN Port Range** -– Enter the range of port number used for incoming traffic to this Server. If only a single port is required, enter it in both fields
- **Allowed Remote IP** – This allows only a range of remote side IP address to access the virtual servers. The default is 0.0.0.0 ~ 0.0.0.0, means all remote side IP address can access it.

Buttons

- **Add** – Create a new Virtual Server entry.
- **Delete** – Delete the selected entry.

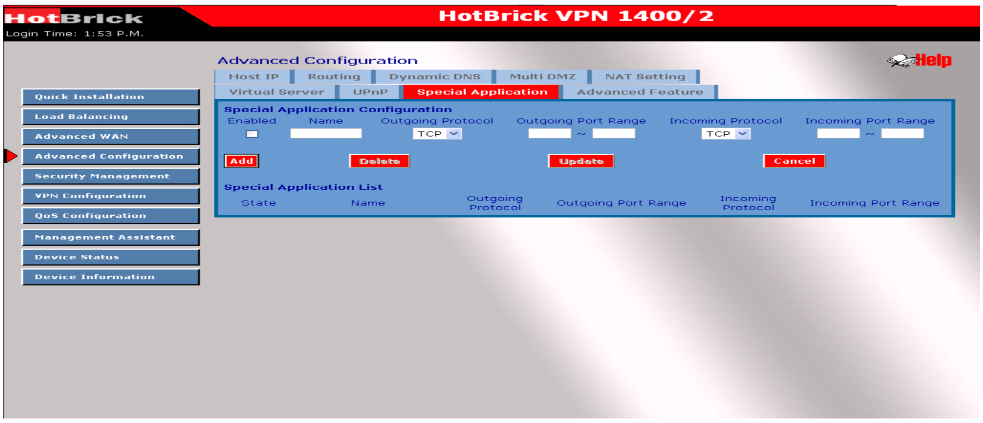
- **Update** – Save any changes you have made to the current entry.
- **Cancel** – Cancel any changes you have made since the last save operation.

Virtual Server List - This table shows the detail for all Custom Virtual Server configuration data. You can modify this configuration data by clicking the specific row you want to change.

Advanced configuration - Special Application

If you use Internet applications that use non-standard connections or port numbers, you may find that they do not function correctly because they are blocked by the Dual WAN VPN Firewall. In this case, you must define the application as a "Special Application" in order for the application to work.

Note that the terms "Incoming" and "Outgoing" on this screen refer to traffic from the client (PC) viewpoint



Special Application Configuration

Enabled	Name	Outgoing Protocol	Outgoing Port Range	Incoming Protocol	Incoming Port Range
□		TCP	~	TCP	~

Special Application List

State	Name	Outgoing Protocol	Outgoing Port Range	Incoming Protocol	Incoming Port Range

Advanced configuration - Special Application.

- **Enable** – Use this to Enable or Disable this Special Application as required
- **Name** – Enter a descriptive name to identify this Special Application.
- **Outgoing Protocol** –Select the protocol used by this application, when sending data to the remote server or PC.
- **Outgoing Port Range** – Enter the beginning and end of the range of port numbers used by the application server for data you send. If the application uses a single port number, enter it in both fields.
- **Incoming Protocol** – Select the protocol used by this application when receiving data from the remote server or PC.
- **Incoming Port Range** –Enter the beginning and end of the range of port numbers used by the application server, for data you receive. If the application uses a single port number, enter it in both fields.

Buttons

- **Add** – Create a new Special Application entry.
- **Delete** – Delete the selected entry.
- **Update** – Save any changes you have made to the current entry.
- **Cancel** – Cancel any changes you have made since the last save operation.

Special Application List - This list shows the details for all currently defined Special Applications. You can modify its configuration data by mouse clicking the appropriate row.

Using a Special Application on your PC

- When the *Special Applications* screen is configured correctly, you can use the application on your PC normally. Remember that only one (1) PC can use each Special application at any time.
- Also, when 1 PC is finished using a particular Special Application, a “Time Out’’ period may be required before another PC can use the same Special Application.
- If an application still cannot function correctly, try using the "DMZ" feature instead.

Advanced configuration – Dynamic DNS

Dynamic DNS is very useful when combined with the *Virtual Server* feature. It allows Internet users to connect to your Virtual Servers using a URL, rather than an IP Address.

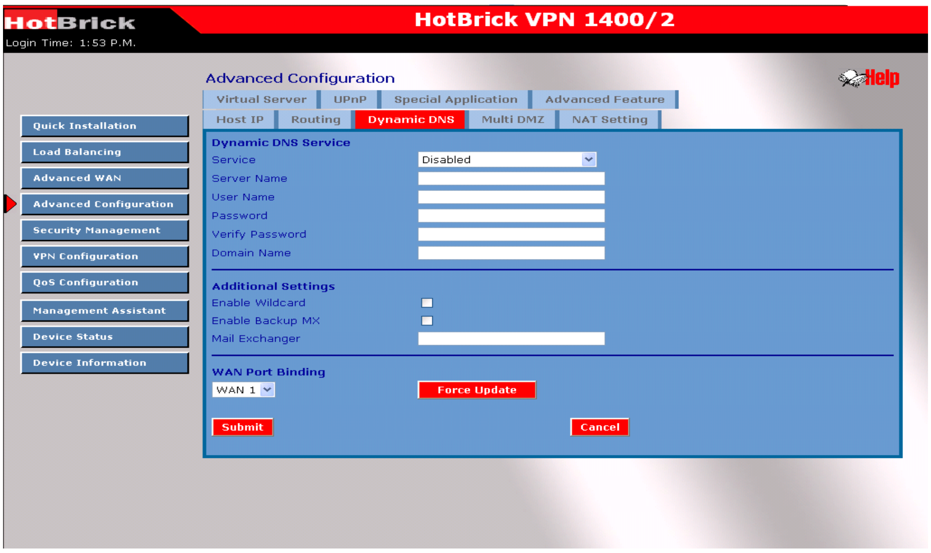
This also solves the problem of having a dynamic IP address on your WAN port. With a dynamic IP your IP address may change whenever you connect to your ISP, which makes it difficult for visitors to connect to your web site.

You must register for the Dynamic DNS service. The Dual WAN VPN Firewall supports 3 types of service providers:

- Standard client, available at http://www.dyndns.org
  Other sites may offer the same service, but can not be guaranteed to work.
- TZO at http://www.tzo.com
- 3322 is available in China at http://www.3322.org

To use the Dynamic DNS feature

- Register for the service from your preferred service provider.
- Follow the service provider's procedure to have a Domain Name (Host name) allocated to you.
- Configure the ***Dynamic DNS*** screen, as described below.
- The Dual WAN VPN Firewall will then automatically update your IP Address recorded by the Dynamic DNS service provider.
- From the Internet, users will now be able to connect to your Virtual Servers (or DMZ PC) using your Domain name.



Dynamic DNS Service

Service	Disabled
Server Name	
User Name	
Password	
Verify Password	
Domain Name	

Additional Settings

Enable Wildcard	□
Enable Backup MX	□
Mail Exchanger	

WAN Port Binding

WAN 1

Dynamic DNS Service

This pull-down menu can Enable/Disable the Dynamic DNS feature, and select the required service provider.

- **Disable** – Dynamic DNS is not used.
- **TZO** – Select this to use the TZO service (www.tzo.com). You must configure the *TZO* section of this screen.
- **DynDNS** – Select this to use the standard service (from www.dyndns.org or another provider). You must configure the *Standard Client* section of this screen.
- **3322(in China)** – This service is available in China. It is similar to "DynDNS"
- **User Defined DDNS Server** – This is the user defined DDNS server. If the DDNS is not TZO, dyndns.org and 3322.

Additional settings

These options are available if using the standard client.

- **Enable Wildcard** – If selected, traffic sent to sub-domains (of your Domain name) will also be forwarded to you.
- **Enable backup MX** – If enabled, you must enter the *Mail Exchanger* address below.
- **Mail Exchanger** – If the setting above is enabled, enter the address of the backup Mail Exchanger.

WAN Port Binding

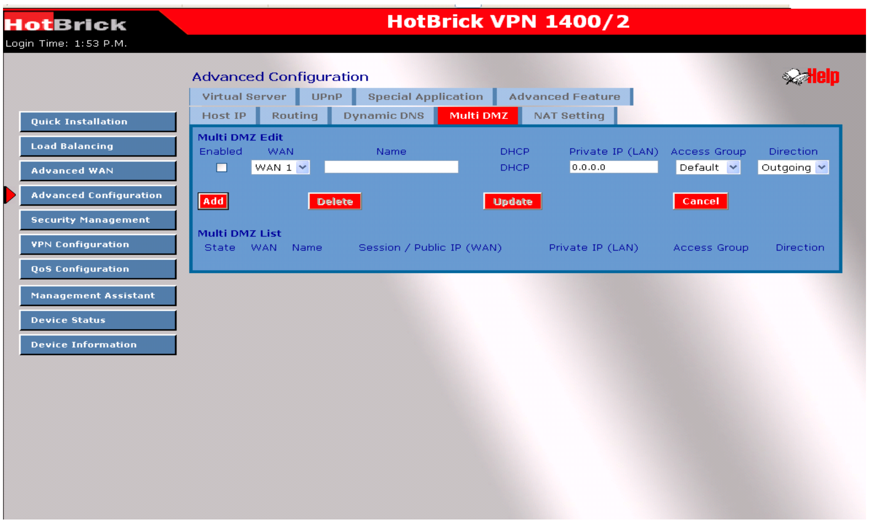
- Select the WAN port used by the Dynamic DNS service.
- The "Force Update" button will update your record on the Dynamic DNS Server immediately.

Advanced Configuration - Multi DMZ

This feature allows each WAN port IP address to be associated with one (1) computer on your LAN. All outgoing traffic from that PC will be associated with that WAN port IP address. Any traffic sent to that IP address will be forwarded to the specified PC, allowing unrestricted 2-way communications between the "DMZ PC" and other Internet users or Servers.

Note:

The "DMZ PC" is effectively outside the Firewall, making it more vulnerable to attacks. For this reason, you should only enable the DMZ feature when required.



Advanced Configuration

Multi DMZ Edit

Enabled	WAN	Name	DHCP	Private IP (LAN)	Access Group	Direction
□	WAN 1		DHCP	0.0.0.0	Default	Outgoing

Multi DMZ List

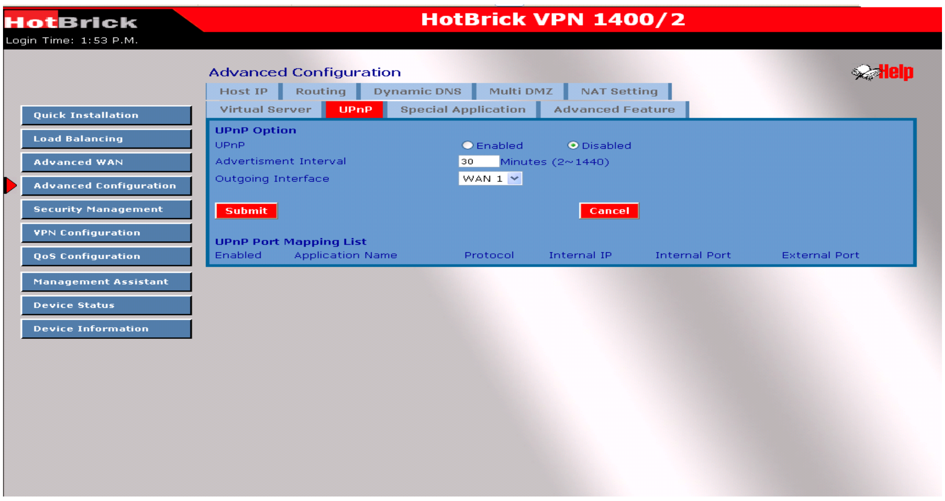
State	WAN	Name	Session / Public IP (WAN)	Private IP (LAN)	Access Group	Direction

Multi DMZ

- **Enable** – Use this to enable or disable the DMZ setting, as required.
- **WAN** – there is 1 WAN port. Its connection type may change based on your WAN connection type (Static/DHCP/PPPoE).
- **Name** – Enter a name for this setting. This name has no effect on the functionality.
- **Private IP Address (LAN)** – Enter the IP address of the PC you wish to associate with this WAN port IP address. This IP address should be fixed, or reserved. (See the ***Host IP*** section for details on reserving an IP address.)
- **Access Group** –You can define the users who have authority to use the DMZ by defining the group/s (Host IP web page)
- **Direction** –For the DMZ, you can allow inbound only, outbound only, or both inbound and outbound traffic.
- **Multi DMZ List -** Multi DMZ List shows the details of all DMZ configuration data that is currently defined. You can modify configuration data by mouse-clicking on the row.

Advanced Configuration - UPnP Setup

With the UPnP (Universal Plug & Play) function, it is easy to setup and configure an entire network to enable discovery and control of networked devices and services.



Advanced Configuration

UPnP Option

UPnP ○ Enabled ● Disabled

Advertisment Interval 30 Minutes (2~1440)

Outgoing Interface WAN 1

UPnP Port Mapping List

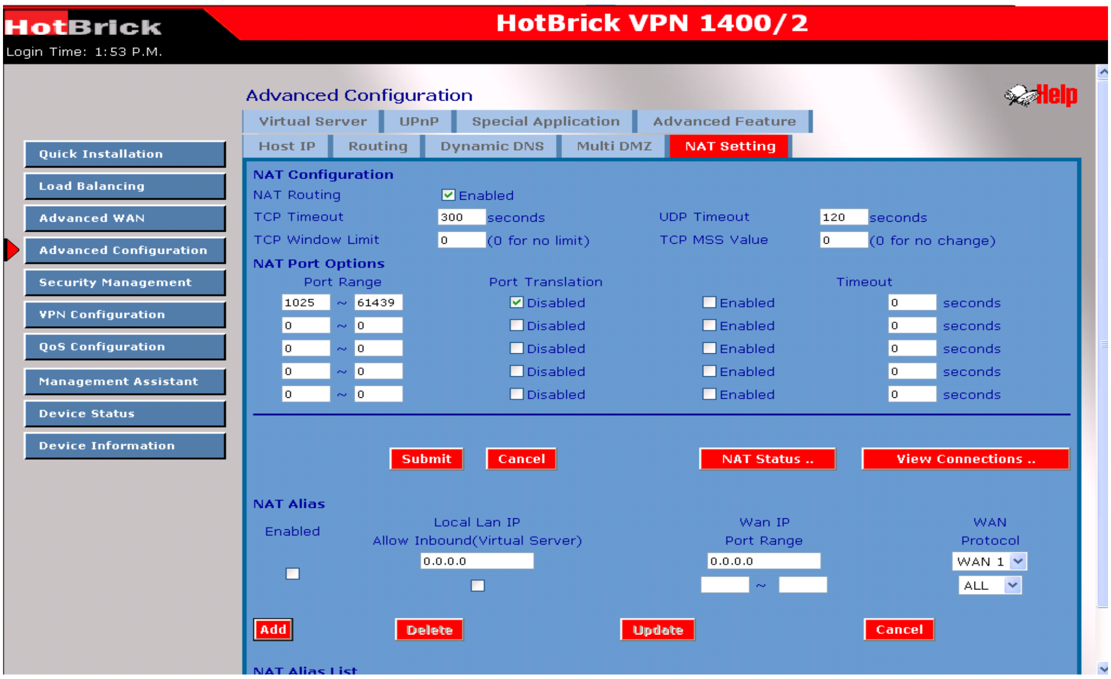
Enabled	Application Name	Protocol	Internal IP	Internal Port	External Port

UPnP Option - If UPnP is enabled, then this device will become one of the local network devices. You can then find an icon for it in Network Neighborhood on a Windows XP computer on your LAN.

Every time you add a new service with port mapping, the new service will appear on the mapping list.

UPnP Port Mapping List – With UPnP enabled, the table shows the details of all Custom Virtual Server configuration data.

Advanced Configuration – NAT Setting



NAT Configuration

NAT Routing ☑ Enabled

TCP Timeout 300 seconds — UDP Timeout 120 seconds

TCP Window Limit 0 (0 for no limit) — TCP MSS Value 0 (0 for no change)

NAT Port Options

Port Range	Port Translation		Timeout
1025 ~ 61439	☑ Disabled	☐ Enabled	0 seconds
0 ~ 0	☐ Disabled	☐ Enabled	0 seconds
0 ~ 0	☐ Disabled	☐ Enabled	0 seconds
0 ~ 0	☐ Disabled	☐ Enabled	0 seconds
0 ~ 0	☐ Disabled	☐ Enabled	0 seconds

NAT Alias

Enabled	Local Lan IP Allow Inbound(Virtual Server)	Wan IP Port Range	WAN Protocol
☐	0.0.0.0 ☐	0.0.0.0 ~	WAN 1 ALL

NAT Alias List

NAT Configuration

- **NAT Routing** – You can enable or disable NAT by using the checkbox. If you disable the NAT checkbox, it will act as a bridge or Static Router. Most features will be unavailable.

- **TCP Timeout** – Enter the desired value to use for the WAN port. The default is 300.

- **UDP Timeout** – Enter the desired value to use for the WAN port. The default is 120.

- **TCP Window Limit** – Enter the desired value to use for each WAN port. The default is 0 (no limit).

- **TCP MSS Limit** – Enter the required MSS (Maximum Segment Size) to use for each WAN port. The default is 0 (no limit),

Non Translation Port Range - If some packets have port numbers that cannot be translated for special applications, you must set the status to "Enable" and input the value in port range. Otherwise its port cannot be translated in the specified time period so you must set Enable and specify seconds in Timeout.

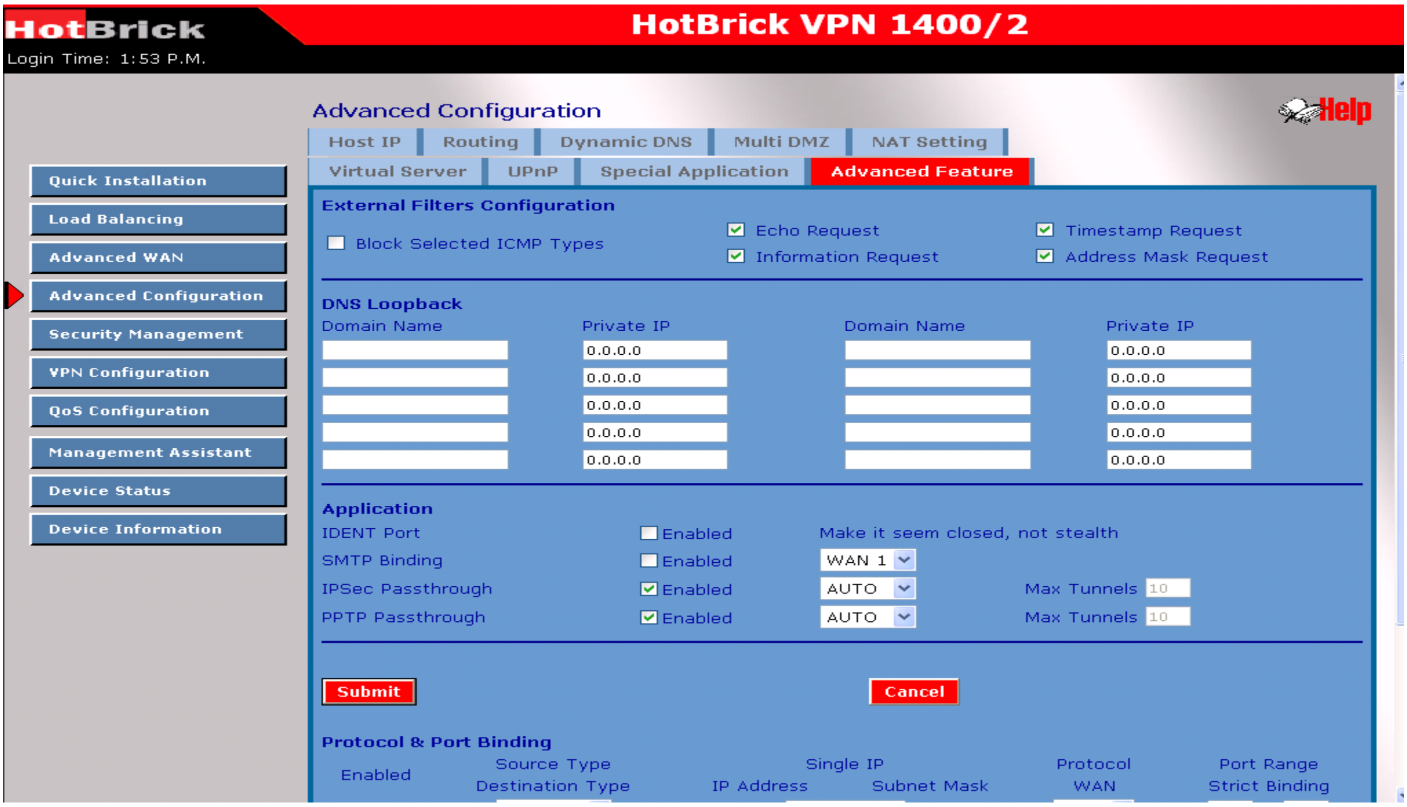
NAT alias - For each alias entry, the WAN IP acts as an alias IP for the host (with the Local LAN IP) for the Internet via the specified WAN port for the specified protocol packets, i.e. 1-1 NAT.

NAT alias list - NAT Alias List shows the list of all currently-defined NAT alias configuration data. You can modify its configuration data by mouse-clicking the list of rows.

Check NAT detail – This displays all detailed information on NAT configuration data

NAT Connection List - This displays the current details of all NAT entries including interface, protocol, state, destination IP, WAN IP, local IP, idle time and in/out packets.

Advanced Configuration – Advanced Feature



Advanced Configuration

External Filters Configuration

☐ Block Selected ICMP Types — ☑ Echo Request, ☑ Timestamp Request, ☑ Information Request, ☑ Address Mask Request

DNS Loopback

Domain Name	Private IP	Domain Name	Private IP
	0.0.0.0		0.0.0.0
	0.0.0.0		0.0.0.0
	0.0.0.0		0.0.0.0
	0.0.0.0		0.0.0.0
	0.0.0.0		0.0.0.0

Application

IDENT Port	☐ Enabled	Make it seem closed, not stealth	
SMTP Binding	☐ Enabled	WAN 1	
IPSec Passthrough	☑ Enabled	AUTO	Max Tunnels 10
PPTP Passthrough	☑ Enabled	AUTO	Max Tunnels 10

Protocol & Port Binding

Enabled	Source Type Destination Type	IP Address	Single IP Subnet Mask	Protocol WAN	Port Range Strict Binding

External Filters Configuration

- **IDENT Port** – Port 113 is associated with the Internet's (Identification / Authentication) service. When a client program in your computer contacts a remote server for services such as POP, IMAP, SMTP, that remote server sends back a query to the "Ident" server running in many systems listening for these queries on port 113. This means that hackers can probe port 113 as a rich source of your personal information. The default value of this check box is "Disable"
- **Block Selected ICMP Types** – These settings determine whether or not this device should respond to ICMP requests received from the WAN port. If Checked, the selected packet types are blocked. Otherwise, they are accepted.

DNS Loopback - When you have some servers on the LAN and their domain names have already been registered on a public DNS you can avoid a DNS loop back problem by entering the following fields.

- **Domain Name** – Enter the domain name specified by you for local server.
- **Private IP** – Enter the private IP address of your local server.

Interface Binding - SMTP (Simple Mail Transport Protocol) Binding

Unless you are using E-mail accounts from different ISPs on each port, you can ignore these settings.

Some ISPs configure their E-mail Servers so they will not accept E-mail from IP addresses not allocated by them. If you are using accounts from different ISPs, sending E-mail over the wrong WAN port may result in non-acceptance of the mail. In this case, you can use these settings to correct the problem.

□ **Enable** - If enabled, the WAN port you specify will be used for all outgoing SMTP traffic. If disabled, either WAN port will be used.

□ **WAN** – Select the desired WAN port to be bound.

Protocol and Port Bindings - Use these settings if you wish to ensure that particular traffic is sent by a particular WAN port, and thereby a particular ISP account.

□ **Enable** - Enable or disable each item as required.

□ **Source IP** - IP address of the source sending the packets.

□ **Destination IP** – IP address of the destination receiving the packets.

□ **Subnet Mask** – With a subnet mask other than 255.255.255.255, you can make an IP subnetwork your destination.

□ **Protocol** – Select protocol type used by the traffic you wish to configure.

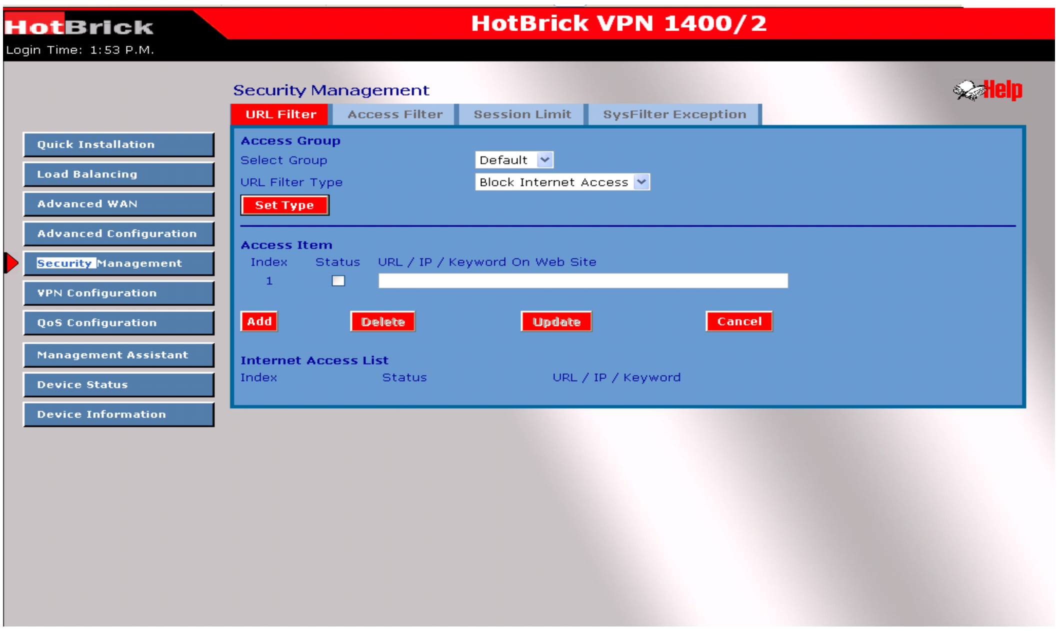
□ **Port Range** - Enter the beginning and end of the port range used by the traffic you wish to configure. If only a single port is used, enter the port number in both fields.

□ **WAN** - Select the WAN port you wish this traffic to use.

Protocol and Port Binding List - This list shows the details of all protocol and port configuration data that are currently defined. You can modify them by mouse clicking the correct row.

6 – Security Management

Security Management – Block URL



Security Management

Access Group

Select Group: Default

URL Filter Type: Block Internet Access

Access Item

Index	Status	URL / IP / Keyword On Web Site
1	□	

Internet Access List

Index	Status	URL / IP / Keyword

This feature allows you to block access to undesirable Web sites. You can block by URL, IP address, or Keyword. You can also have different blocking settings for different groups of PCs.

- Every URL is searched to see if it matches or contains any of the URLs or keywords entered here. Then, after a DNS lookup, it determines the IP address of the requested site; the site's IP address is checked against IP address entries on this screen.
- Note that a single IP address may host many Web sites. Entering the address on this screen will block all Web sites hosted at that IP address.

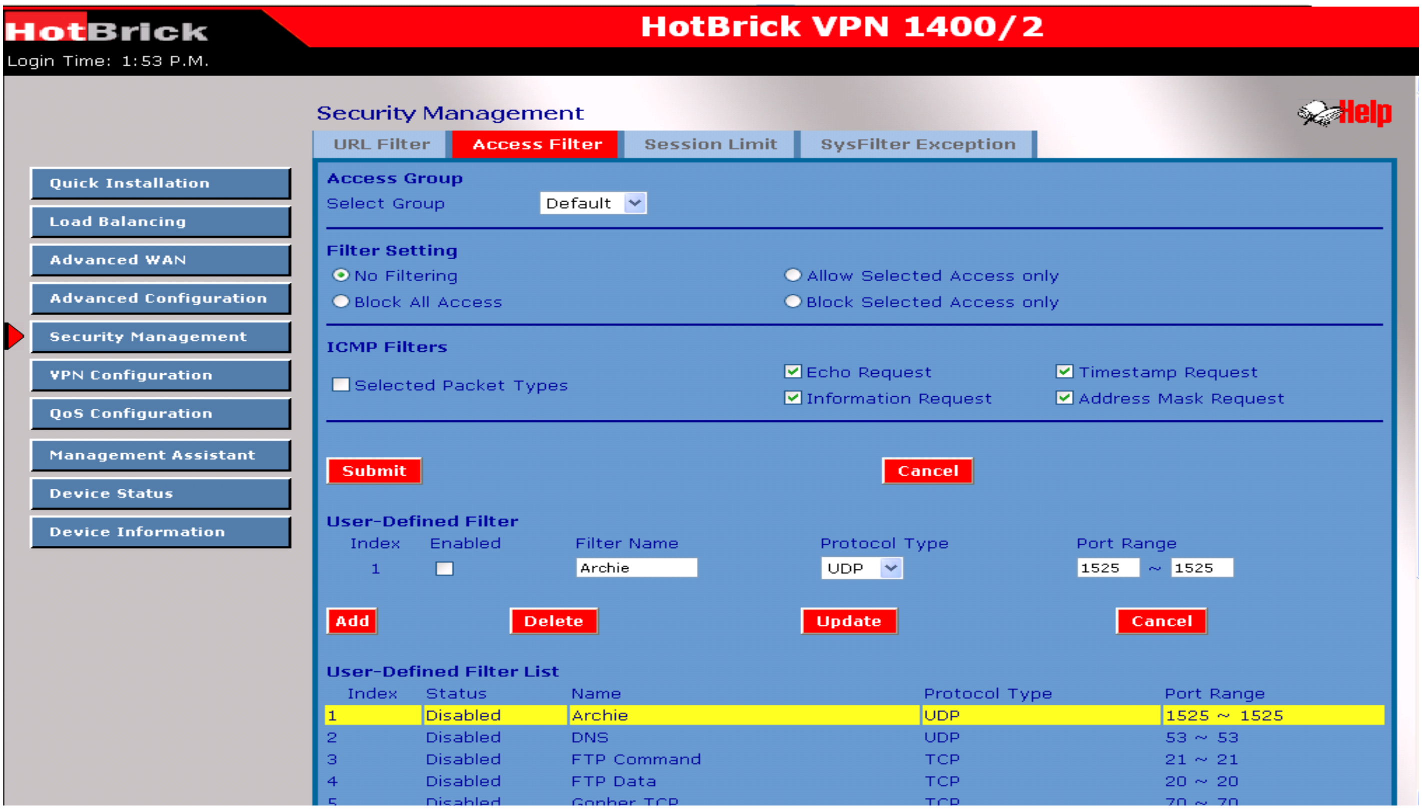
Access Group - This allows you to have different blocking rules for different Groups of PCs.

- All PCs (users) are in the *Default* Group unless moved to another group on the ***Host IP*** screen.
- If you want the same restrictions to apply to everyone, select *Default* for the Group. In this case, there is no need to enter any Hosts on the ***Host IP*** screen.
- If you wish to apply different restrictions to different Groups, select the desired Group, and click the "Select" button. The screen will update data for the selected Group.

Block internet access – When this setting is enabled ,all internet access is allowed; there are no restrictions in place. When a rule is added it will prohibit access to the website.

Allow Internet Access – When this setting is active, all internet access is prohibited by default. An entry here will enable access to the specific allowed site while all other sites are blocked.

Security Management – Access Filter



Security Management

Access Group

Select Group: Default

Filter Setting

● No Filtering ○ Allow Selected Access only
○ Block All Access ○ Block Selected Access only

ICMP Filters

□ Selected Packet Types
☑ Echo Request ☑ Timestamp Request
☑ Information Request ☑ Address Mask Request

User-Defined Filter

Index	Enabled	Filter Name	Protocol Type	Port Range
1	□	Archie	UDP	1525 ~ 1525

User-Defined Filter List

Index	Status	Name	Protocol Type	Port Range
1	Disabled	Archie	UDP	1525 ~ 1525
2	Disabled	DNS	UDP	53 ~ 53
3	Disabled	FTP Command	TCP	21 ~ 21
4	Disabled	FTP Data	TCP	20 ~ 20
5	Disabled	Gopher TCP	TCP	70 ~ 70

The network administrator can use the Access Filter to control the Internet access and applications available to LAN users.

- Five (5) user groups are available, and each group can have different access rights.
- All PCs (users) are in the *Default* group, unless assigned to another group on the ***Host IP*** screen.

Access Group - This allows you to create different access rights for different Groups of PCs.

- If you want the same restrictions to apply to everyone, select *Default* for the Group. In this case, there is no need to enter any Hosts on the ***Host IP*** screen.
- If you wish to apply different restrictions to different Groups, select the desired Group. The update will apply to the selected Group only.

ICMP – Filters - If you enable ICMP Filter, the ICMP request packet types specified will be blocked from the local host to the remote side.

Port Blocking – There are two possible settings :

□ **No Filtering** - all ports are open

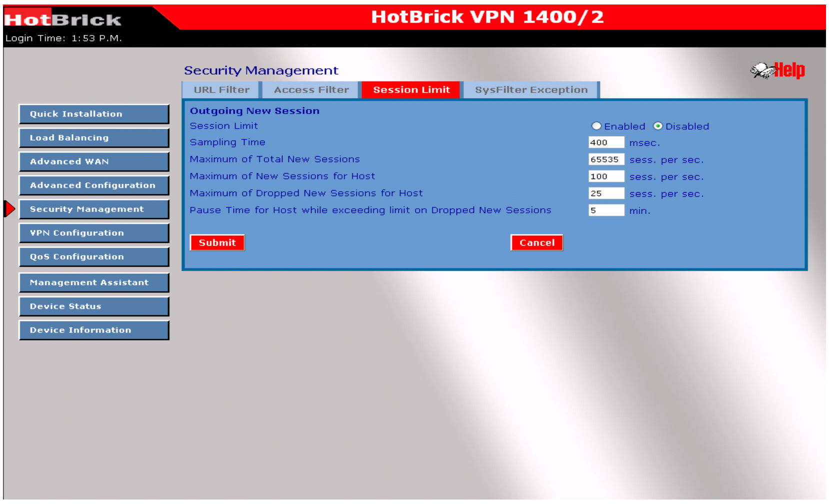
□ **Block All Access** – All ports are closed. When you make a new rule, the port will be opened for that entry (maximum number of rules you enter are 50).

□ **Filter Name** – Enter a meaningful name for this filter.

□ **Protocol Type** – Select a protocol type you wish to block.

□ **Port No. Range** – Enter the range of port numbers you wish to block. If only a single port is required, enter it in both fields.

Security Management - Session Limit



Security Management

Outgoing New Session

Session Limit	○ Enabled ● Disabled
Sampling Time	400 msec.
Maximum of Total New Sessions	65535 sess. per sec.
Maximum of New Sessions for Host	100 sess. per sec.
Maximum of Dropped New Sessions for Host	25 sess. per sec.
Pause Time for Host while exceeding limit on Dropped New Sessions	5 min.

This new feature allows you to drop new sessions from both the WAN and LAN side. This occurs when the number of new sessions exceeds the maximum value set by you in a sampling time.

□ **Sampling time -** The time interval specified by you to count the new sessions. Only new sessions are counted in the sampling time to check. (The default is 400 mil-sec.)

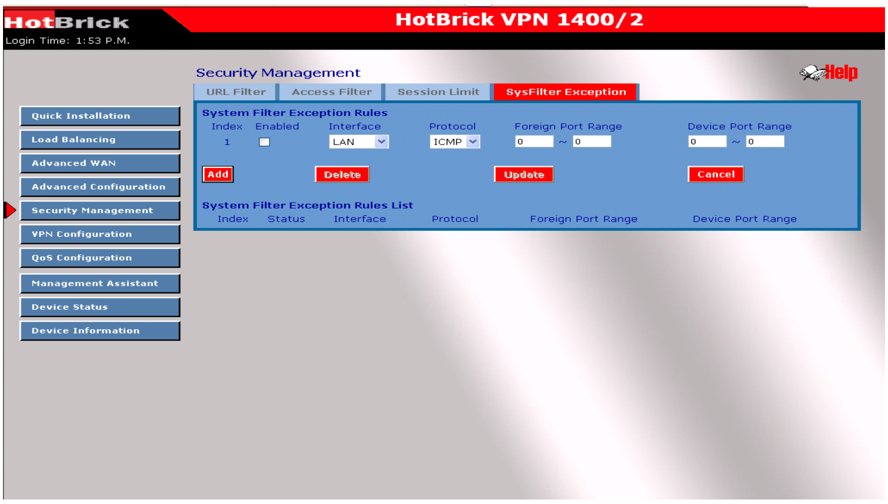
□ **Maximum total of new sessions -** The maximum number of new sessions in the system that is acceptable in the sampling time. Any new incoming sessions will be dropped after the number of new sessions exceeds it. (Default: 65535 session/sec)

□ **Maximum new Sessions for Host -** The maximum number of new sessions from the host that is acceptable in the sampling time. Any new incoming sessions will be dropped from this host after the number of new sessions exceeds it. (Default: 100 session/sec)

□ **Maximum dropped sessions for host -** If the number of dropped new sessions from the host exceeds the Maximum in the sampling time, any new session from the host will be dropped in the pause time period. (Default: 25 session/sec)

□ **Pause time for host while exceeding limit on dropped new sessions -** Within the pause time period, no new session from the suspended host can be served by the system when the number of dropped new sessions exceeds the defined Maximum. (Default is 5 minutes)

Security Management – System Filter Exeption



System Filter Exception Rules

Index	Enabled	Interface	Protocol	Foreign Port Range	Device Port Range
1	□	LAN	ICMP	0 ~ 0	0 ~ 0

System Filter Exception Rules List

Index	Status	Interface	Protocol	Foreign Port Range	Device Port Range

Sysfilter exception - System Filter Exception – will reject every packet with an unrecognized port to avoid port scan programs run by hackers but this also incurs problems when servers (e.g. SMTP server port 113) or clients from the WAN need to respond to packets to verify their availability to their communication peers.

□ **Enable** – If the check box is checked, the System Filter Exception is enabled.

□ **Interface** – You can select LAN, any WAN port, or ALL interfaces through which a packet passes.

□ **Protocol** – The packet type that will be processed via the above interface by this device.

□ **Foreign Port Range** – Enter the beginning and end of the foreign port range used for the traffic you are configuring. If a single port is used instead of a range, enter the port number in both fields.

□ **Device Port Range** – Enter the beginning and end of the device port range used by the traffic you wish to configure. If only a single port is used, enter the port number in both fields.

System Filter Exception Rules List - The list will display the details of all System Filter Exception Rule data that you have setup. You can modify it by mouse-clicking each row.

7 : VPN Configuration

Virtual Private Network (VPN) uses encryption and authentication to create the connection between two end points (computers or networks). It allows private data to be sent securely over a public network or Internet without the risk of unauthorized access from outside intruders. VPNs establish a private network that can send data securely between two networks. We call this creating a "tunnel". A VPN tunnel connects the two PCs or networks.

Note: The Dual WAN VPN Firewall uses industry standard IPSec encryption. However, due to the variations in how manufacturers interpret this standard, many VPN products are not interoperable. Although the Dual WAN VPN Firewall can interoperate with many other VPN products, it is not possible to provide specific technical support for every other product on the market.

Planning the VPN

When planning your VPN, you must make following choices first.

1. If the remote end is a network, the two-endpoint networks must have different LAN IP address ranges. If the remote endpoint is a single PC running a VPN client, its destination address must be a single IP address, with a subnet mask of 255.255.255.255

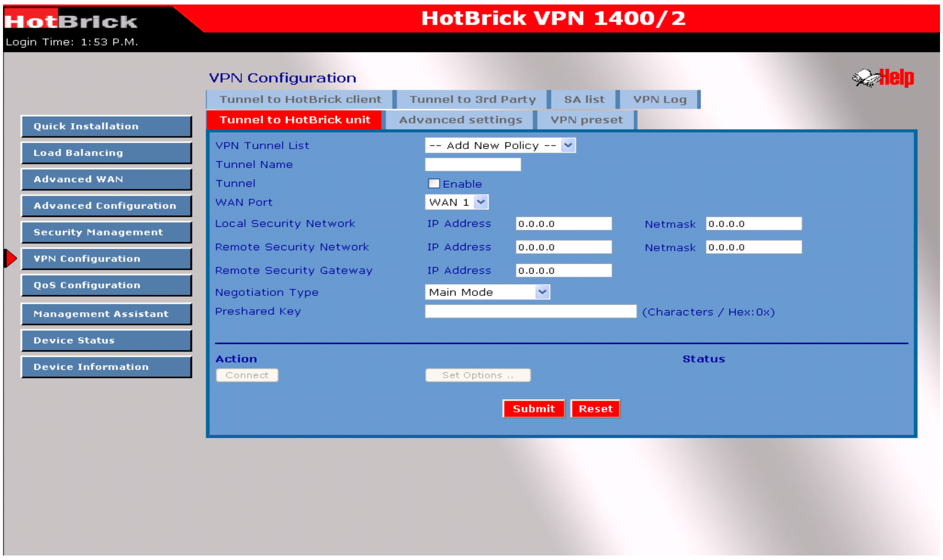
2. You can use the Internet Key Exchange (IKE) setup, or Manual Keying that requires you to specify each phase of the connection. IKE has become the standard for automatic keying.

3. Decide what encryption level you are going to use (DES, 3DES or AES)?

The settings you have to make to connect to another HotBrick product are basic.
Some Standard settings that we use for tunnels between our products are SHA1 authentication, AES 128 bits encryption and DH group 2 as hash algorithm. This is a basic setting that ensures good speed and very secure encryption and authentication so your data will be safely transported via the IPSec tunnel.

There are two basic settings:

Tunnel to HotBrick Unit - This describes how to setup an IPSec tunnel to a HotBrick VPN 401 VPNX2, LB-2 VPN, 1400/2, 800/8 F and HSS 6000.



VPN Configuration

VPN Tunnel List: -- Add New Policy --
Tunnel Name:
Tunnel: ☐ Enable
WAN Port: WAN 1
Local Security Network: IP Address 0.0.0.0 Netmask 0.0.0.0
Remote Security Network: IP Address 0.0.0.0 Netmask 0.0.0.0
Remote Security Gateway: IP Address 0.0.0.0
Negotiation Type: Main Mode
Preshared Key: (Characters / Hex:0x)

Action Status

VPN Configuration – Tunnel to HotBrick Unit

- **VPN Tunnel List–** here you can add a new tunnel or change an existing one from the list. The router allows a maximum of 50 tunnels.

- **Tunnel Name–** In order to distinguish the tunnels, you have to give the "Tunnel" a unique name.

- **Tunnel –** The tunnel can be connected only after the tunnel check box is enabled.

- **WAN port –** You can choose WAN1, WAN2 or Any to make the VPN connection.

- **Local Security Network–** These entries identify the private network on this VPN router. The Network hosts can use the LAN-to-LAN connection. You can choose a single IP address, the subnet, or a selected IP range to make a VPN LAN-to-LAN connection.

- **Remote Security Network–** These entries identify the private network on the remote peer VPN router whose hosts can use the LAN-to-LAN connection. You can choose a single IP address, the subnet, or a selected IP range to make a VPN connection

- **Remote Security Gateway –** You can select the remote-side IP address (WAN IP address) as your remote security gateway

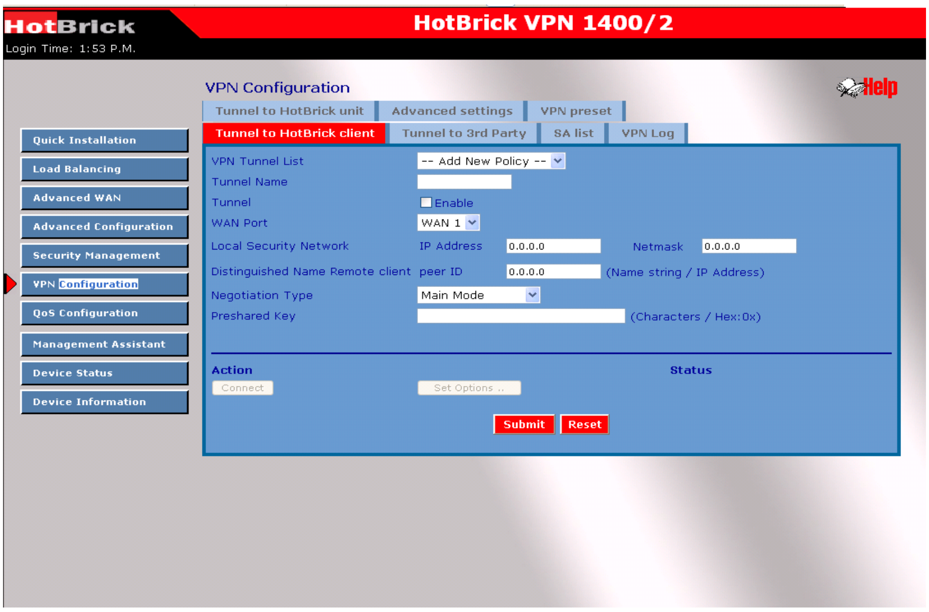
- **Preshared Key –** Choose a shared secret for this entry, this must be the same on both units.

- **Action**

    Connect – this button will initiate the tunnel

    Submit Query – this button will add the policy

VPN Configuration – Tunnel to HotBrick Client



VPN Tunnel List	-- Add New Policy --			
Tunnel Name				
Tunnel	□ Enable			
WAN Port	WAN 1			
Local Security Network	IP Address	0.0.0.0	Netmask	0.0.0.0
Distinguished Name Remote client	peer ID	0.0.0.0	(Name string / IP Address)	
Negotiation Type	Main Mode			
Preshared Key		(Characters / Hex:0x)		

Tunnel to HotBrick Client – This describes an IPSec tunnel from a the VPN 1400/2 to the HotBrick Client Software.

□ **VPN Tunnel List–** allows you to add a new tunnel or change an existing one on the list. The router can support a maximum of 50 tunnels.

□ **Tunnel Name–** In order to distinguish the tunnels, you have to give the "Tunnel" a unique name.

□ **Tunnel –** Only after you enable the tunnel check box, the tunnel can be connected.

□ **WAN port –** You can choose WAN1, WAN2 or Any to make the VPN connection.

□ **Local Security Network–** These entries identify the private network on this VPN router. The Network hosts can use the LAN-to-LAN connection. You can choose a single IP address, the subnet, or a selected IP range to make VPN LAN-to-LAN connection.

□ **Distinguished name remote client –** this is an email format address. For example: pete@HotBrick.com

□ **Preshared key -** Choose a shared secret for this entry. They must be the same on both units.

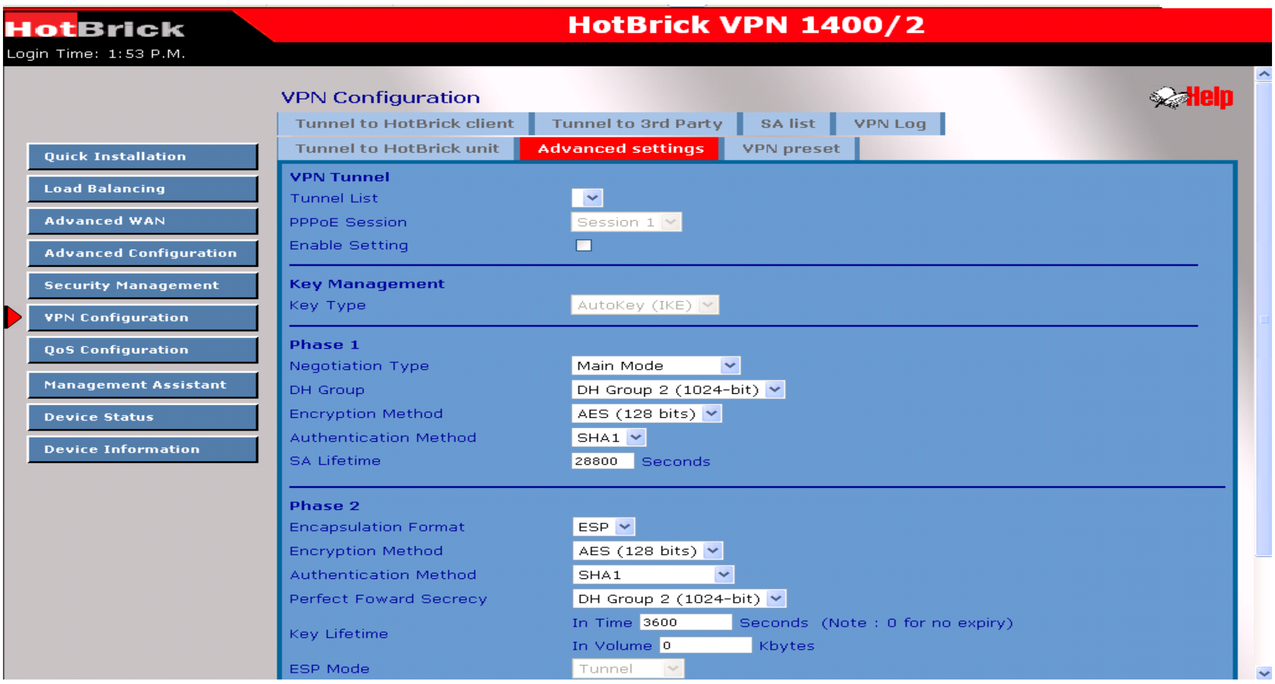
□ **Action**

Connect – this button will initiate the tunnel

Submit Query – this button will add the policy

VPN Configuration – Advanced settings

When you use the **tunnel to HotBrick unit** or **tunnel to HotBrick client** configurations the **Advanced Settings** a ren't required. They are only required for configuring an IPSec tunnel to a third party unit.



VPN Configuration

VPN Tunnel
Tunnel List
PPPoE Session: Session 1
Enable Setting: □

Key Management
Key Type: AutoKey (IKE)

Phase 1
Negotiation Type: Main Mode
DH Group: DH Group 2 (1024-bit)
Encryption Method: AES (128 bits)
Authentication Method: SHA1
SA Lifetime: 28800 Seconds

Phase 2
Encapsulation Format: ESP
Encryption Method: AES (128 bits)
Authentication Method: SHA1
Perfect Foward Secrecy: DH Group 2 (1024-bit)
Key Lifetime: In Time 3600 Seconds (Note : 0 for no expiry)
In Volume 0 Kbytes
ESP Mode: Tunnel

□ **Tunnel Name–** In order to distinguish the tunnel, you have to give the "Tunnel" a unique name.

□ **PPPoE Session–** If you are using PPPoE to make the connection, and your ISP offers multiple PPPoE sessions, you can select these PPPoE sessions to construct VPN tunnels.

□ **Enable setting –** The tunnel can only be connected if enabled.

□ **Phase 1 DH Group –** Use DH Group 1(768-bits), DH Group 2(1024-bits), or Group 5 (1536-bits) to generate IPSec SA keys.

□ **Phase 1 Encryption Method–** Three data encryption methods are available: DES, 3DES, AES.

□ **Phase 1 Authentication Method–** There are two authentication methods available: MD5 and SHA1 (Secure Hash Algorithm).

□ **Phase 1 SA Life Time–** By default the Security Association lifetime is 3600 Sec.

□ **Force Deletion after Expiring –** Once SA expires, tunnel will be removed and related resources will be released to the system.

Security level

□ **Encryption Method –** specifies the encryption mechanism to use. Data encryption makes the data unreadable if intercepted. There are three encryption method available; DES, 3DES and AES. The default is null.

□ **Authentication –** specifies the packet authentication mechanism to use. Packets authentication proves the data comes from the source you think it comes from. There are three authentications available: MD5, SHA1 and SHA2.

Key management

□ **Key – Key Type:** there are two key types (manual key and auto key) available for key exchange management.

□ **Manual Key:** If manual key is selected, no key negotiation is needed.

□ **AutoKey (IKE)-** There are two types of operation modes that can be used.

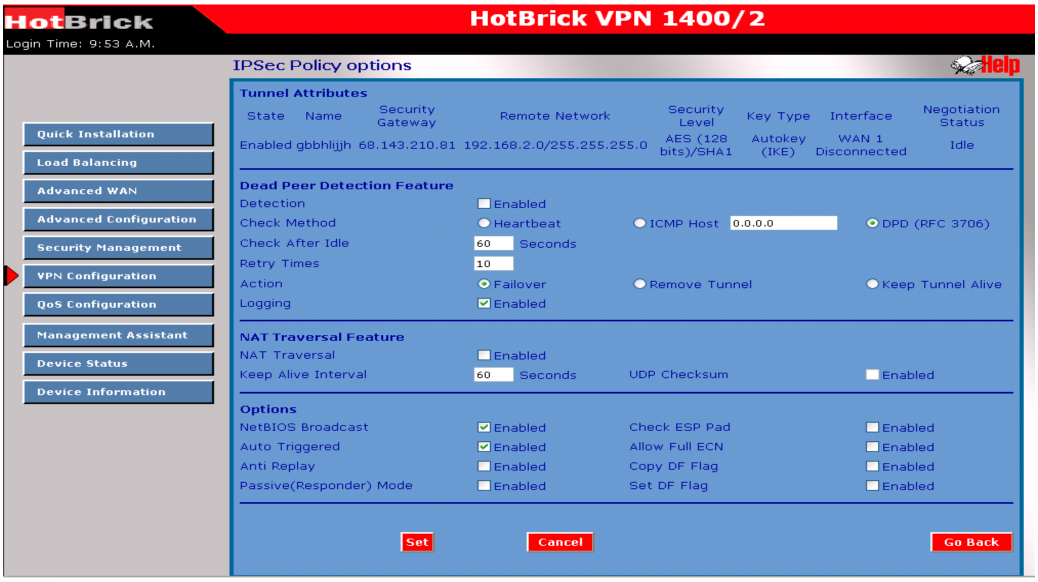
□ **Main mode** accomplishes a phase one IKE exchange by establishing a secure channel.

□ **Aggressive Mode** is another way of accomplishing a phase one exchange. It is faster and simpler than main mode, but does not provide identity protection for the negotiating nodes.

□ **Perfect Forward Secrecy** (PFS) – If PFS is enabled, IKE phase 2 negotiation will generate new key values for IP traffic encryption & authentication. Preshared Key – This field authenticates the remote IKE peer.

□ **Key Lifetime-** This is specified the lifetime of the IKE generated Key. If the time expires or data is passed over this volume, a new key will be renegotiated. No limit - 0 – is the default.

IPSec policy options



IPSec Policy options

Tunnel Attributes

State	Name	Security Gateway	Remote Network	Security Level	Key Type	Interface	Negotiation Status
Enabled	gbbhlijjh	68.143.210.81	192.168.2.0/255.255.255.0	AES (128 bits)/SHA1	Autokey (IKE)	WAN 1 Disconnected	Idle

Dead Peer Detection Feature

Detection	☐ Enabled		
Check Method	○ Heartbeat	○ ICMP Host 0.0.0.0	● DPD (RFC 3706)
Check After Idle	60 Seconds		
Retry Times	10		
Action	● Failover	○ Remove Tunnel	○ Keep Tunnel Alive
Logging	☑ Enabled		

NAT Traversal Feature

NAT Traversal	☐ Enabled		
Keep Alive Interval	60 Seconds	UDP Checksum	☐ Enabled

Options

NetBIOS Broadcast	☑ Enabled	Check ESP Pad	☐ Enabled
Auto Triggered	☑ Enabled	Allow Full ECN	☐ Enabled
Anti Replay	☐ Enabled	Copy DF Flag	☐ Enabled
Passive(Responder) Mode	☐ Enabled	Set DF Flag	☐ Enabled

- **Tunnel Attribute –** The defined attributes for the tunnel.

- **Dead Peer Detection -** This setting allows you to use a WAN port for backup or for WAN failover in the event of a connection failure.

- **Check Method –** You can choose ICMP, Heartbeat or DPD protocol. This detects if the remote end of the VPN tunnel is alive or not.

Options :

- **NetBIOS Broadcast-** This is used to forward NetBIOS broadcasts across the Internet.

- **Auto Trigger–**This helps keep the IPSec tunnel connection us so it can be re-established immediately, if a connection is dropped and detected.

- **Anti Replay –** This keeps IP packet-level security in order.

- **Passive mode –** This means that your PC establishes the data connection (if you enable passive mode).

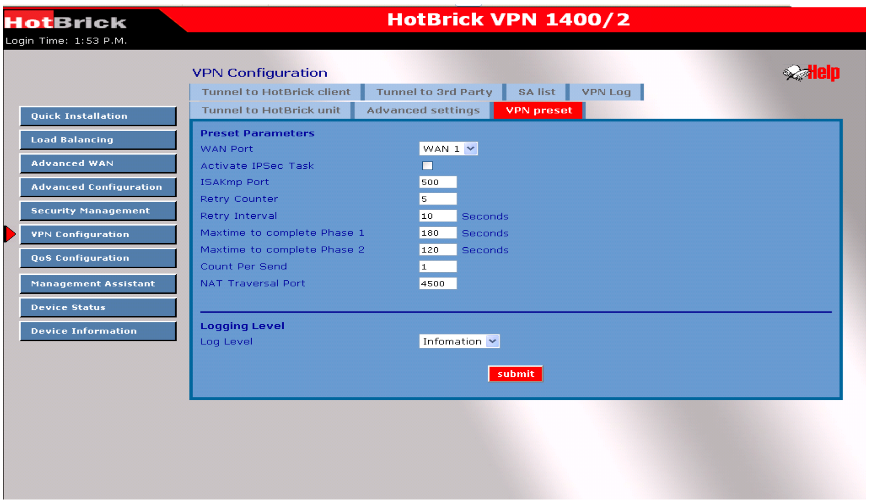
- **Check ESP Pad –** If enabled, ESP (Encapsulating Security Payload),it will check ESP padding.

- **Allow Full ECN –** Enable will allow full Explicit Congestion Notification (ECN). ECN is a standard proposed by the IETF that will cut down on network congestion and routers dropping packets.

- **Copy DF Flag –** When an IP packet is encapsulated as payload inside another IP packet, some of the outer header fields can be rewritten, and others are determined by the inner header. Among these fields is the IP DF (don't fragment) flag. When the inner packet DF flag is clear, the outer packet may copy it or set it; however, when the inner DF flag is set, the outer header MUST copy it.

□ **Set DF Flag-** If this DF (Do not Fragment) flag is set, it means the fragmentation of this packet at the IP level is not permitted.

VPN configuration – VPN preset



Preset Parameters

WAN Port	WAN 1	
Activate IPSec Task	□	
ISAKmp Port	500	
Retry Counter	5	
Retry Interval	10	Seconds
Maxtime to complete Phase 1	180	Seconds
Maxtime to complete Phase 2	120	Seconds
Count Per Send	1	
NAT Traversal Port	4500	

Logging Level

Log Level	Infomation

□ **ISAkmp Port–** Internet Security Association and Key Protocol Management (ISAkmp) is designed to negotiate, establish, modify and delete security associations and their attributes. In particular, it was assigned UDP port 500 by the IANA.

□ **WAN Port –** Choose the WAN port that you want these settings to be applied to.

□ **Retry Counter** – It indicates how many times the process of Phase 1 will be restarted if it's unsuccessful. There is an error message in VPN log once it is expired.

□ **Retry Interval** – It is the time period between two consecutive retries.

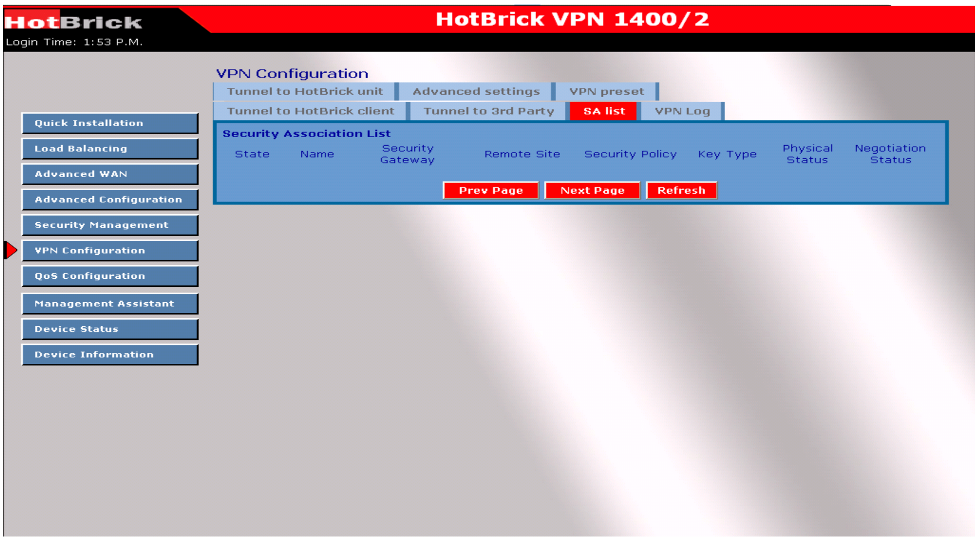
□ **Maxtime to complete Phase 1** – It indicates the maximum time allowed to be negotiated in Phase 1. If it expires often, it's recommended to increase the Maxtime period or reduce DH group level. Default value is 30 sec.

□ **Maxtime to complete Phase 2** – It indicates the maximum time allowed to be negotiated in Phase 2. If it expires often, it's recommended to increase the Maxtime period or reduce DH group level. Default value is 30 sec.

□ **Count Per Send** – It indicates the maximum amount of duplicate packets to be resent if the remote side does not respond to the first packet.

□ **Logging Level -** This function allows you to select which information you want to see on the VPN log. It has six different levels of messages: None, Critical, Error, Warning, Information, Debug.

VPN Configuration – SA



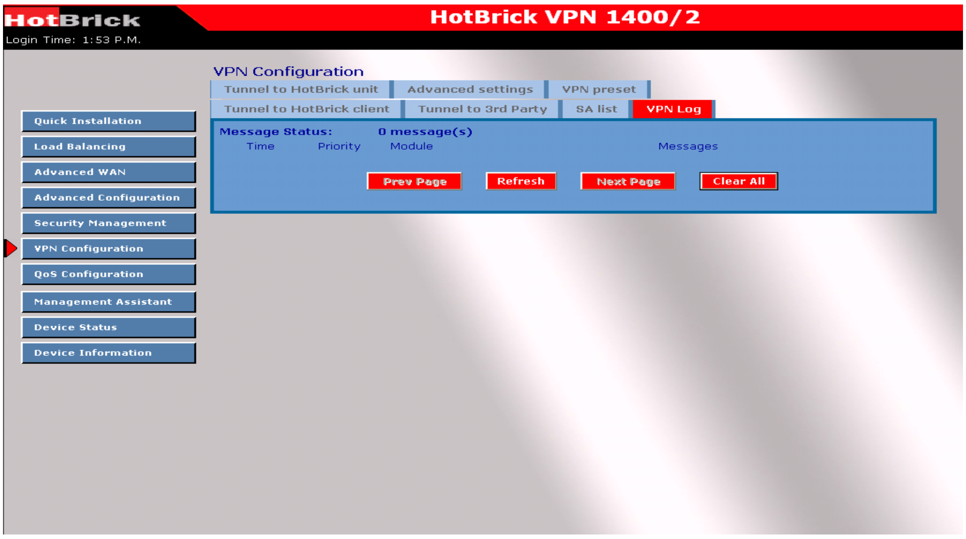
Security Association List

State	Name	Security Gateway	Remote Site	Security Policy	Key Type	Physical Status	Negotiation Status

VPN configuration – SA

The list will display the details of all Policy Setup configuration data that you have setup. You can modify it by mouse-clicking each row.

VPN Configuration – VPN Log



Message Status: 0 message(s)

Time Priority Module Messages

You can monitor the VPN status through the VPN log web page. The log level (priority) can be chosen from VPN IKE Global Setting web page.

Message Status

□ **Priority** – It This indicates the severity level of a message for analysis.

□ **Time** – This indicates when this message is created using the system time.

Undefined messages

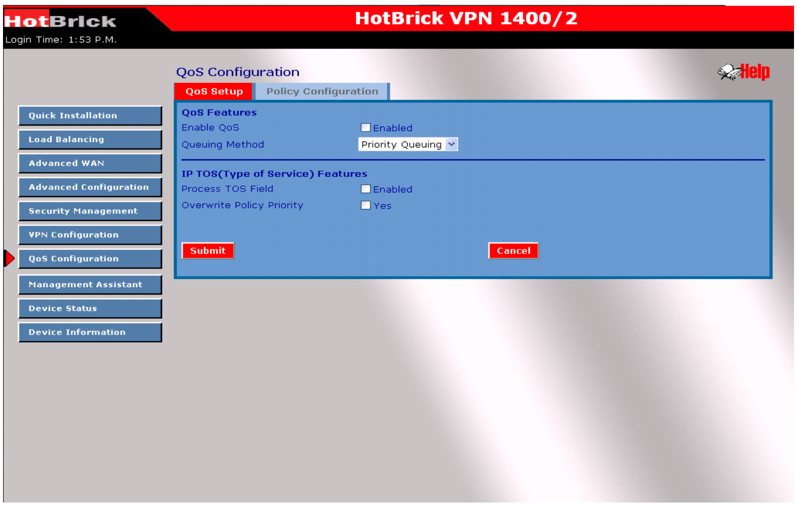
□ **Module** – The module that is responsible for the message being sent in IPSec architecture.

□ **Messages** – The message displays information describing the event that occurred.

8: QoS Configuration

QoS Configuration – overview

The Dual WAN VPN Firewall provides QoS, which supports high quality network service. By prioritizing outgoing packets based on user-defined policies, the Quality of Service feature can result in real-time applications achieving better response or performance.



QoS Configuration

QoS Features

Enable QoS □ Enabled

Queuing Method Priority Queuing

IP TOS(Type of Service) Features

Process TOS Field □ Enabled

Overwrite Policy Priority □ Yes

QoS Features :

□ **Enable QoS –** This enables the QoS function.

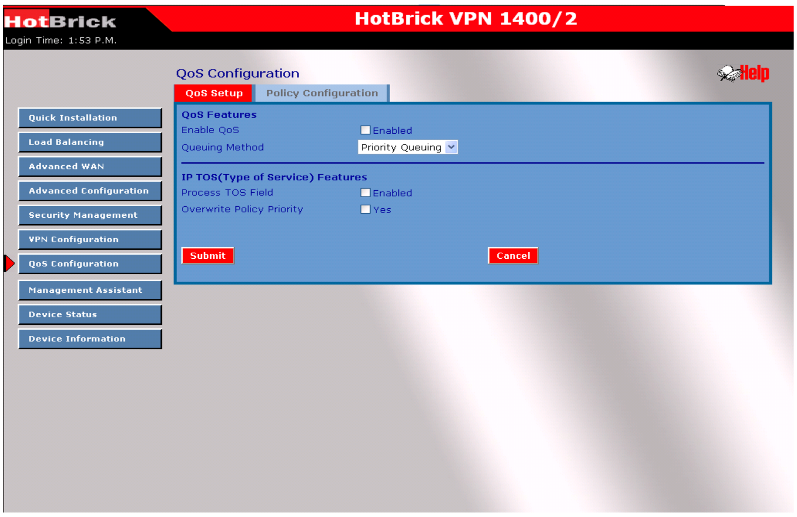
□ **Queuing Method –** Theses methods determine how to manage your queue. Priority Queuing is one of the first queuing variations to be widely implemented.

IP TOS (Type of Service Feature)

□ **Process TOS Field –** An 8-bit field in the IP Packet header designed to contain values indicating how each packet should be handled in the network. If you choose "enable" it will enable this function to process this IP Type of service field.

□ **Overwrite policy priority -** Choose "yes" to set the priority of the TOS field in the IP packet to overwrite the priority defined in the policy configuration.

QoS Configuration – QoS Setup



QoS Configuration

QoS Features

Enable QoS ☐ Enabled

Queuing Method Priority Queuing

IP TOS(Type of Service) Features

Process TOS Field ☐ Enabled

Overwrite Policy Priority ☐ Yes

QoS Setup

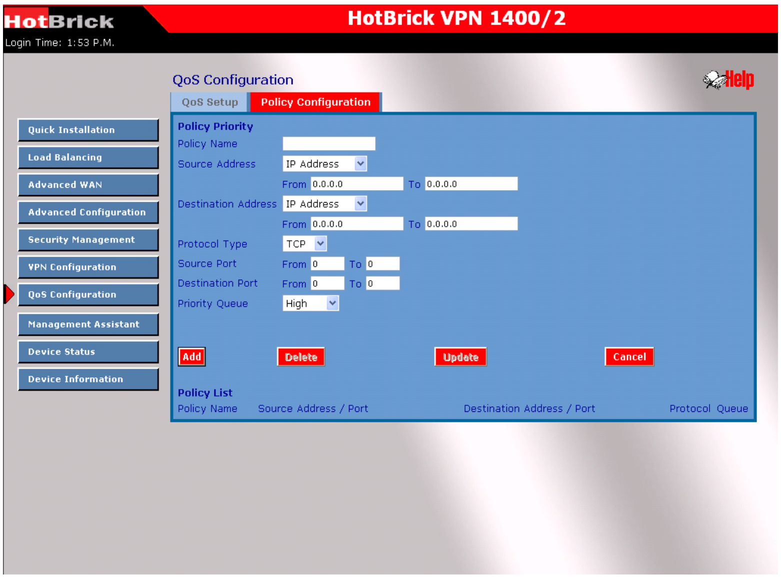
QoS Feature

- **Enable QoS –** This will allow users to enable the QoS function.
- **Queuing Method -** The method used to manage your queue. Priority queuing is one of the first queuing solutions to be widely implemented.

IP TOS

- **Process TOS Field –** An 8 bits field in the IP packet header designed to contain values indicating how each packet should be processed in the network. Enable this function to process the IP Type of Service field.
- **Overwrite policy priority –** Choose "yes" to set the priority of the TOS field in IP the packet to overwrite the priority defined in the policy configuration.

QoS Configuration – Policy Configuration



QoS Configuration

Policy Priority

Policy Name

Source Address IP Address

From 0.0.0.0 To 0.0.0.0

Destination Address IP Address

From 0.0.0.0 To 0.0.0.0

Protocol Type TCP

Source Port From 0 To 0

Destination Port From 0 To 0

Priority Queue High

Policy List

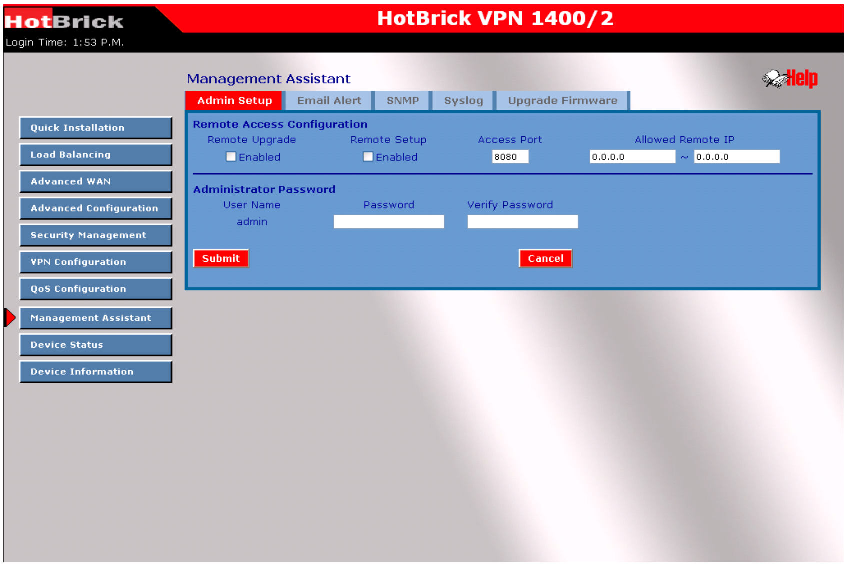
Policy Name	Source Address / Port	Destination Address / Port	Protocol	Queue

Policy Priority :

- Policy Name List – When adding a new Policy, ignore this list. To edit an existing entry, select it from the list and then click the "Select" button. The data fields will be updated with data for the selected entry.
- Policy Name – Enter a suitable name. Generally, you should use the "Policy Name" for the network traffic type for ease of identification.
- Source Address – Define the source address of packets here. It has two types: IP address or MAC address. If you select IP address you can define the IP address range; otherwise you can define up to four MAC addresses.
- Destination Address – Define the destination address of packets here. The explanation is as the same as above.
- Protocol Type – The field defines traffic packet type, i.e. IP, TCP and UDP.
- Source Port – Define the source port of the packets here.
- Destination Port – Define the destination port of the packets here.
- Priority Queue – Determines if a packet meets all conditions defined above and will be serviced with a defined priority level.

9 : Management Assistant

Management assistant – Admin Password



Management Assistant

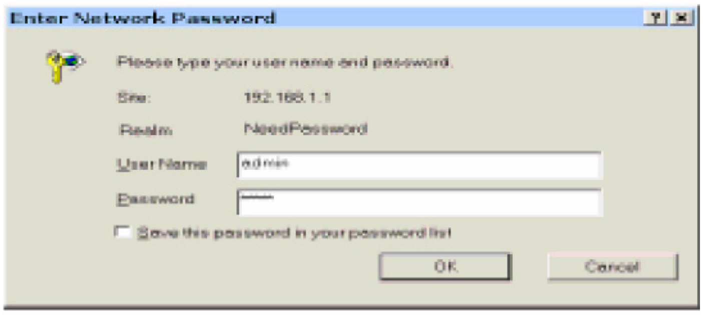
Remote Access Configuration

Remote Upgrade	Remote Setup	Access Port	Allowed Remote IP
□ Enabled	□ Enabled	8080	0.0.0.0 ~ 0.0.0.0

Administrator Password

User Name	Password	Verify Password
admin		

Enter the desired password, re-enter it in the *Verify Password* field, then save it.
When you connect to the Load Balancer with your Browser, you will be prompted for the password as shown below.



Please type your user name and password.

Site: 192.168.1.1

Realm NeedPassword

User Name admin

Password ******

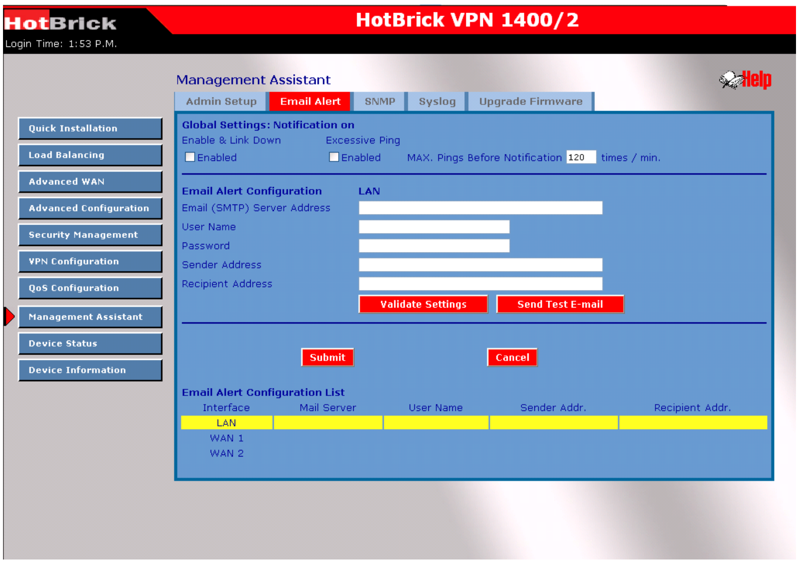
□ Save this password in your password list

Figure 8-5: Password Dialog

□ Enter "Admin" for the *User Name.*

□ Enter the password for the Dual WAN VPN Firewall, as set on the *Admin Password* screen above. (The default is blanks.)

Management Assistant – Email Alert



Global Settings: Notification on

Enable & Link Down
□ Enabled

Excessive Ping
□ Enabled MAX. Pings Before Notification 120 times / min.

Email Alert Configuration LAN

Email (SMTP) Server Address

User Name

Password

Sender Address

Recipient Address

Email Alert Configuration List

Interface	Mail Server	User Name	Sender Addr.	Recipient Addr.
LAN				
WAN 1				
WAN 2				

This feature will send a warning Email to inform the system administrator that one of the WAN ports is disconnected.

Enable/Disable Email Alert

- **Enable –** This enables Email Alert to send a warning email when a WAN port disconnects.
- **Disable –** This disables Email Alert so no warning email is sent when a WAN port disconnects.

Email Alert Configuration

- **Email Sender Address-** This is the email address that sends a warning email to a recipient. The email informs the recipient to check if there is a problem with a WAN port or not.
- **Email (SMTP) Server Address –** This is the email server a warning email will be sent to If the setting is enabled. For example:
  mail.domain.com.
- **Email(SMTP) Server User Name –** This is the user name of the email sender for authentication (optional).
- **Email(SMTP)Server Password -** This is the user password.
- **Email Recipient Address -** This is the email recipient address (ex.admin@yourdomain.com). If one of the WAN port disconnects, the email message will be sent to this recipient.

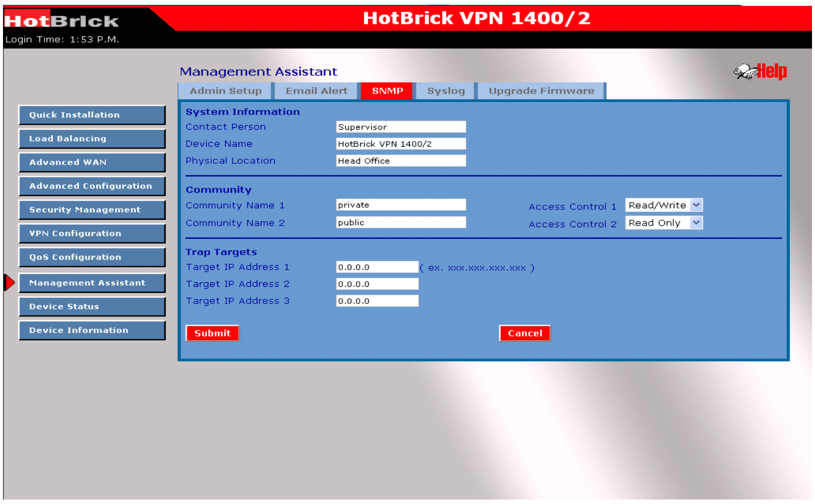
Excessive Ping Notification - This function prevents ICMP packet attacks from either the WAN or LAN on the unit. These packets will be dropped if the ping times exceed the threshold value, Ping Before Notification, and will send an e-mail to notify the administrator if Email Alert is enabled.

- **Ping Attack Notification -** By default this feature is Disabled.

- **Ping Before Notification -** A threshold value for the maximum Pings allowed to each interface on this device in a minute. The valid values range from 0 to 9999.

Management Assistant – SNMP

This section is only useful if you have SNMP(Simple Network Management Protocol) software on a PC or server. If you have SNMP software, you can use a standard MIB 2 file with the VPN 1400/2.



Management Assistant

System Information

Contact Person: Supervisor

Device Name: HotBrick VPN 1400/2

Physical Location: Head Office

Community

Community Name 1: private — Access Control 1: Read/Write

Community Name 2: public — Access Control 2: Read Only

Trap Targets

Target IP Address 1: 0.0.0.0 (ex. xxx.xxx.xxx.xxx)

Target IP Address 2: 0.0.0.0

Target IP Address 3: 0.0.0.0

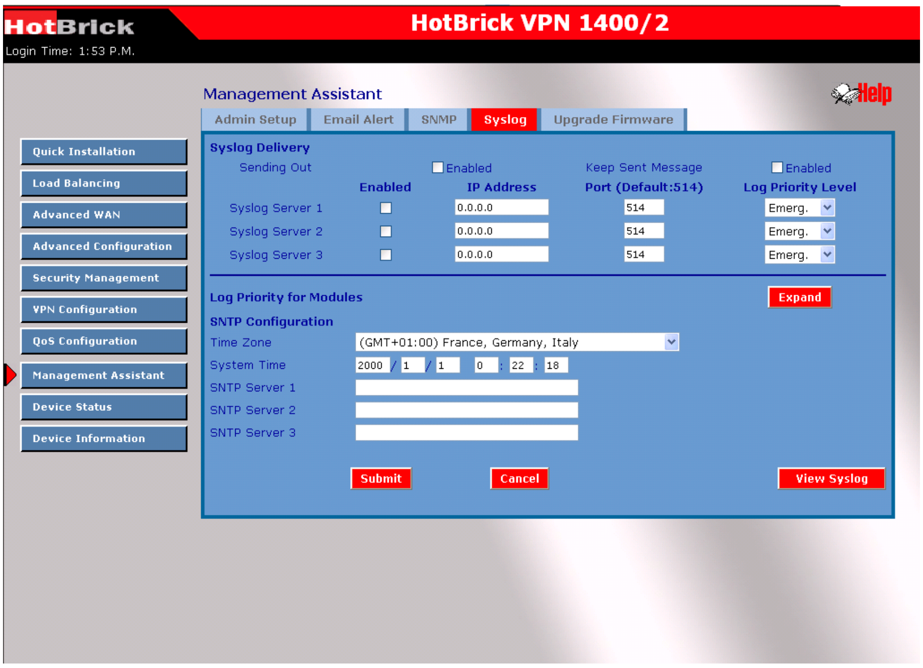
System Information

- **Contact Person –** The contact information for the person responsible for this device.
- **Device name –** The name of the Dual WAN VPN Firewall.
- **Physical Location –** The location of the Dual WAN VPN Firewall.

Community – A relationship between an SNMP agent and a set of SNMP managers that defines authentication, access control, and proxy characteristics.

Trap Targets - Enter the IP address of any targets (PCs running SNMP software) that you want to receive traps. All traps are level 1.

Management Asssistant – Syslog



Management Assistant

Syslog Delivery

Sending Out □ Enabled   Keep Sent Message □ Enabled

	Enabled	IP Address	Port (Default:514)	Log Priority Level
Syslog Server 1	□	0.0.0.0	514	Emerg.
Syslog Server 2	□	0.0.0.0	514	Emerg.
Syslog Server 3	□	0.0.0.0	514	Emerg.

Log Priority for Modules

SNTP Configuration

Time Zone (GMT+01:00) France, Germany, Italy

System Time 2000 / 1 / 1 0 : 22 : 18

SNTP Server 1

SNTP Server 2

SNTP Server 3

This feature can send real time system information on the web page or to the specified PC.

Syslog Delivery

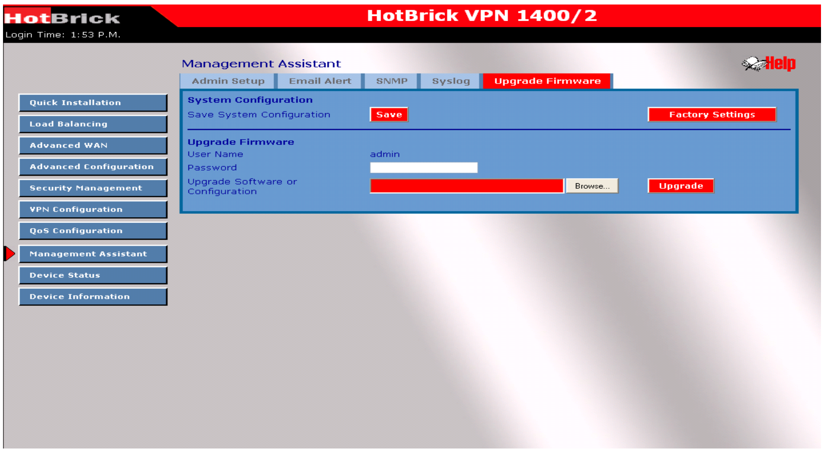
- **Sending out –** Check this, if you want to send syslog messages to another machine.
- **Keep Sent messages –** Check this if you want to keep sent messages; otherwise the sent message will be deleted.
- **Syslog Server - IP address:** Up to 3 syslog servers can be used.
- **Enable:** You can enable or disable each server temporarily.
- **Port:** If your syslog does not use the default port, change it here.

- **Log Priority for modules -** The messages are grouped into **8** priority levels, from **Emergency** to **Debug.** The lower the level, the fewer messages will be generated. Emergency is the lowest priority level, and Debug is the highest. Setting the priority to **Debug** will send all generated messages.

SNTP Configuration

- **Time Zone -** You can setup system time using SNTP (**Simple Network Time Protocol),** and you can define 3 SNTP servers on the SNTP configuration.

Management Assistant - Upgrade Firmware



System Configuration

Save System Configuration

Upgrade Firmware

User Name: admin

Password

Upgrade Software or Configuration

This Upgrade Firmware Screen allows you to upgrade firmware on the system, to enable remote administration, and FTP upgrade.

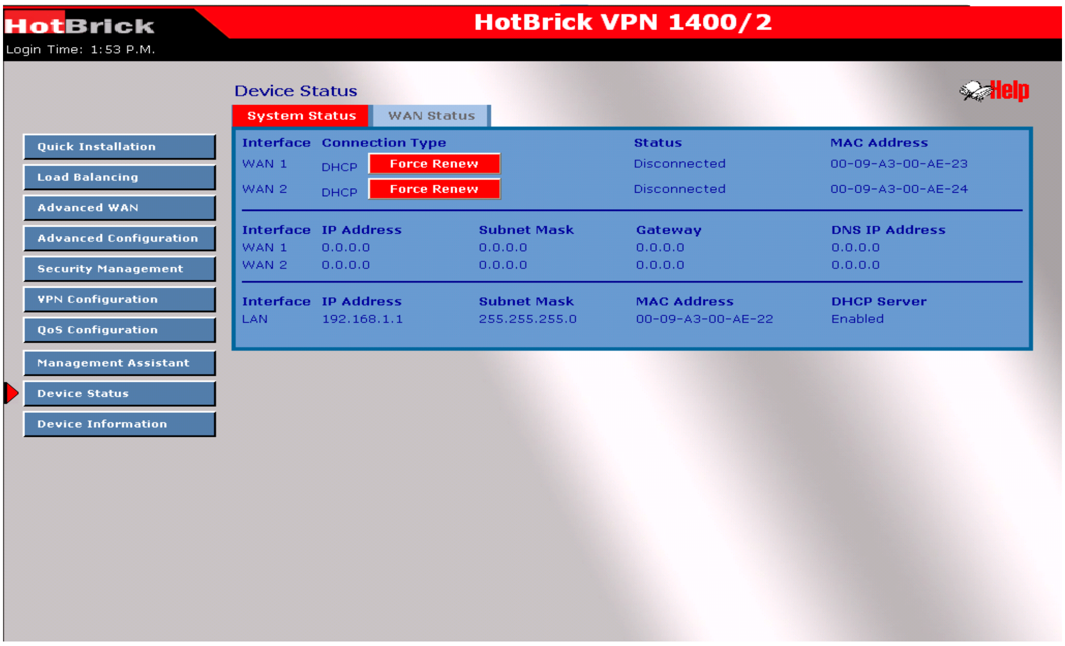
□ You can backup your system configuration by selecting "Save" next to "Save System Configuration". This will allow you to save and store the system configuration file and use it as a backup. (Note: You have to refresh the browser after you saved the system configuration file).

□ If you have password protection you'll be require to enter your password before making any changes to the system configuration files. **Important! Do not Reset or Restart the device while updating the firmware or unit may Crash.**

10: Device Status

Once both the Dual WAN VPN Firewall and the PCs are configured, operation is automatic. However, some additional Internet configuration may be required for your specific network.
Refer to *Chapter 6 - Advanced Features* for further details.

Device status – System status



Device Status

Interface	Connection Type		Status	MAC Address
WAN 1	DHCP	Force Renew	Disconnected	00-09-A3-00-AE-23
WAN 2	DHCP	Force Renew	Disconnected	00-09-A3-00-AE-24

Interface	IP Address	Subnet Mask	Gateway	DNS IP Address
WAN 1	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0
WAN 2	0.0.0.0	0.0.0.0	0.0.0.0	0.0.0.0

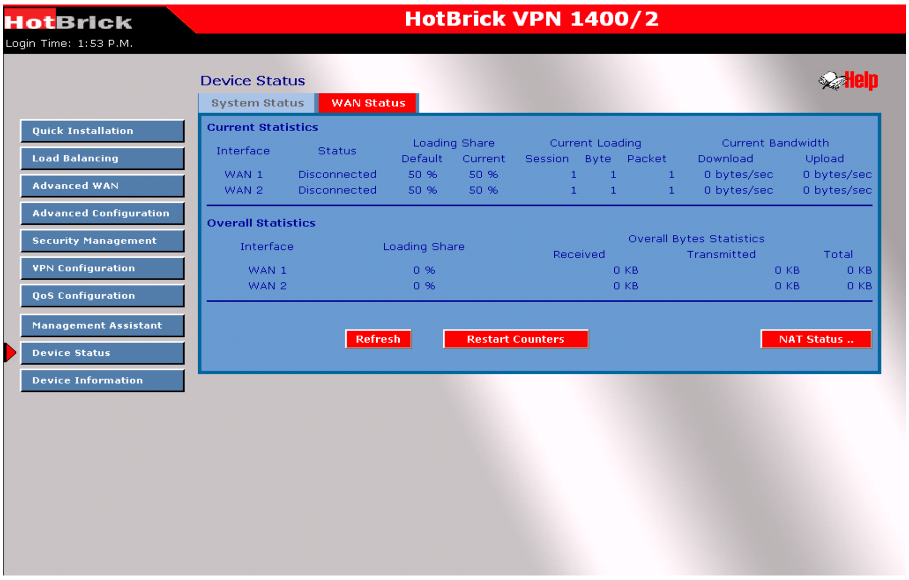
Interface	IP Address	Subnet Mask	MAC Address	DHCP Server
LAN	192.168.1.1	255.255.255.0	00-09-A3-00-AE-22	Enabled

- **Connection Status –** Current status – either "Connected" or "Disconnected".
- **Connection Type –** The type of connection used – DHCP, Fixed IP, PPPoE or PPTP.
- **"Force Renew"** button– Only available when using a dynamic IP address (DHCP). Clicking this button will perform a DHCP "Renew" transaction with the ISP's DHCP server. This will extend the allocation period for your current WAN IP.
- **IP Address –** The public WAN address of the Dual WAN VPN Firewall, as seen from the Internet. This IP Address is allocated by the ISP (Internet Service Provider)
- **Subnet Mask –** The Network Mask (Subnet Mask) for the above IP Address.
- **Gateway -** The default gateway for this subnet.
- **DNS IP Adress –** The DNS server address is supplied by your ISP if needed.
- **MAC address –** The MAC address of the WAN 1 interface.

LAN Information

- **IP Address –** The LAN IP Address of the VPN 1400/2 Firewall Router.
- **Subnet Mask –** The Network Mask (Subnet Mask) for the IP Address above.
- **MAC Address –** The MAC (physical) address of the Dual WAN VPN Firewall.

- □ **DHCP Server –** The status of the DHCP Server function - either "Enabled" or "Disabled".



Device Status

Current Statistics

Interface	Status	Loading Share		Current Loading			Current Bandwidth	
		Default	Current	Session	Byte	Packet	Download	Upload
WAN 1	Disconnected	50 %	50 %	1	1	1	0 bytes/sec	0 bytes/sec
WAN 2	Disconnected	50 %	50 %	1	1	1	0 bytes/sec	0 bytes/sec

Overall Statistics

Interface	Loading Share	Overall Bytes Statistics		
		Received	Transmitted	Total
WAN 1	0 %	0 KB	0 KB	0 KB
WAN 2	0 %	0 KB	0 KB	0 KB

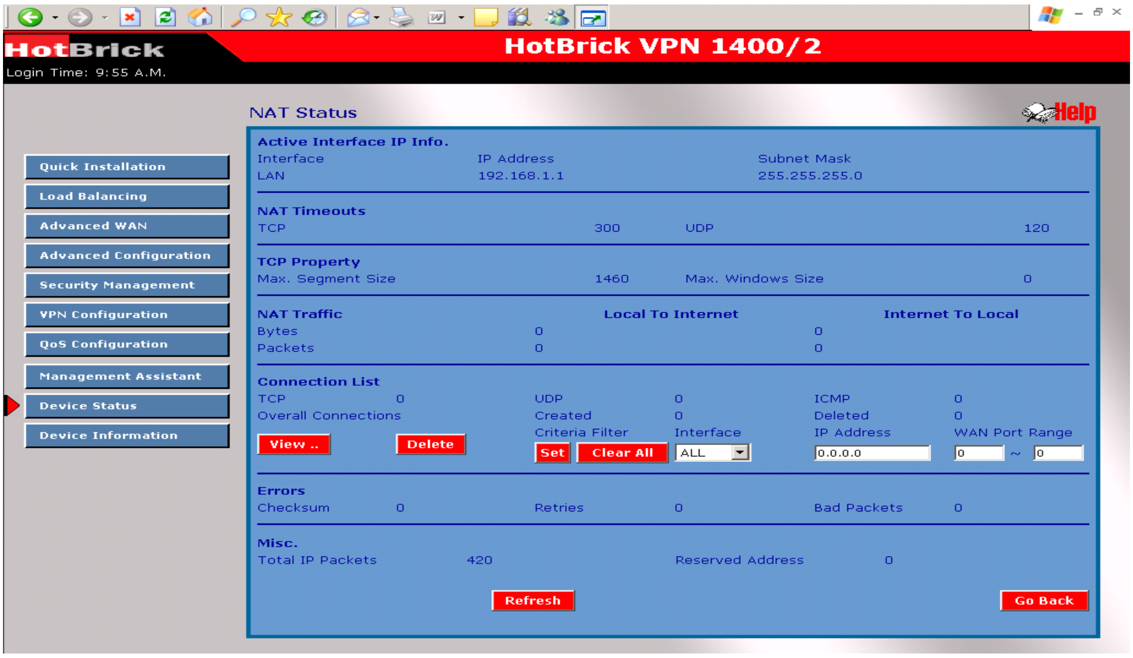
Device Status - WAN status

NAT Statistics

This section displays data for each WAN port.

- □ **Connection status –** This will display either *Connected* or *Not Connected.*
- □ **Default Loading Share -** The default traffic loading between the WAN ports.
- □ **Current Loading Share –** The current traffic loading between the WAN ports.
- □ **Current Loading –** The number of sessions, Bytes and Packets currently being processed on each port.
- □ **Current Bandwidth –** The current Download and Upload speeds on each WAN port.

"Check NAT Detail" will display the ***NAT Status*** screen, described below.



NAT Status

Active Interface IP Info.

Interface	IP Address	Subnet Mask
LAN	192.168.1.1	255.255.255.0

NAT Timeouts

TCP 300 UDP 120

TCP Property

Max. Segment Size 1460 Max. Windows Size 0

NAT Traffic	Local To Internet	Internet To Local
Bytes	0	0
Packets	0	0

Connection List

TCP	0	UDP	0	ICMP	0
Overall Connections		Created	0	Deleted	0
		Criteria Filter	Interface	IP Address	WAN Port Range
			ALL	0.0.0.0	0 ~ 0

Errors

Checksum 0 Retries 0 Bad Packets 0

Misc.

Total IP Packets 420 Reserved Address 0

Data – NAT Status

LAN IP info

- □ **IP Address –** The LAN IP Address of the Dual WAN VPN Firewall.
- □ **Mask Address –** The Network Mask (Subnet Mask) for the IP Address above.

Active WAN IP Info – There is one (1) row for each active connection. The following data is displayed for each connection:

- □ **IP Address –** The WAN (Internet) IP Address of the VPN1400/2 Firewall Router.
- □ **Mask Address –** The Network Mask (Subnet Mask) for the IP Address.

NAT Timeouts – This displays the current timeout values for TCP and UDP connections.

TCP Prosperity - This displays the MSS (Maximum Segment Size) and Maximum Windows size for TCP packets.

NAT Traffic - This section displays statistics for both outgoing (LAN to Internet) and incoming (Internet to local) traffic.

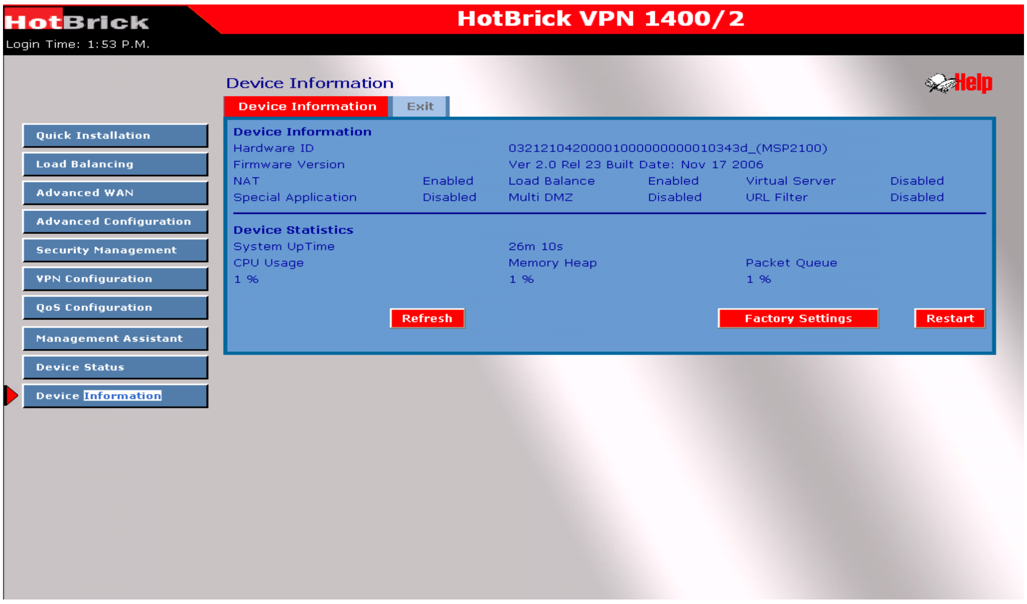
NAT Connections - This displays the current number of active connections. For further details, click the "View Connection" list button.

Errors - Statistics are displayed for Checksum errors, number of retries, and number of bad packets.

Misc - This displays the total IP packets and reserved address.

Interface Statistics - This section displays cumulative statistics. Use the "Restart Counter" button to restart these counters when required.

Device information – Device Information



Device Information

```
Device Information
Hardware ID                         032121042000010000000000010343d_(MSP2100)
Firmware Version                    Ver 2.0 Rel 23 Built Date: Nov 17 2006
NAT                   Enabled       Load Balance     Enabled     Virtual Server     Disabled
Special Application   Disabled      Multi DMZ        Disabled    URL Filter         Disabled

Device Statistics
System UpTime                       26m 10s
CPU Usage                           Memory Heap                  Packet Queue
1 %                                 1 %                          1 %
```

Device Information

- **Firmware Version –** Version of the Firmware currently installed.
- **NAT –** Status of the *NAT* feature – either “Enable” or “Disable”.
- **Load Balance –** Status of the *Load Balance* feature –either “Enable” or “Disable”.
- **Virtual Server –** Status of the *Virtual Server* feature - either “Enable” or “Disable”.
- **Special Applications –** Status of the *Special Applications* feature - either “Enable” or “Disable”.
- **DMZ –** Status of the *DMZ* feature – either "Enable" or "Disable".
- **Block URL –** Status of the *Block URL* feature - either "Enable" or "Disable".
- **Hardware ID -** The manufacturer’s ID for this specific device.

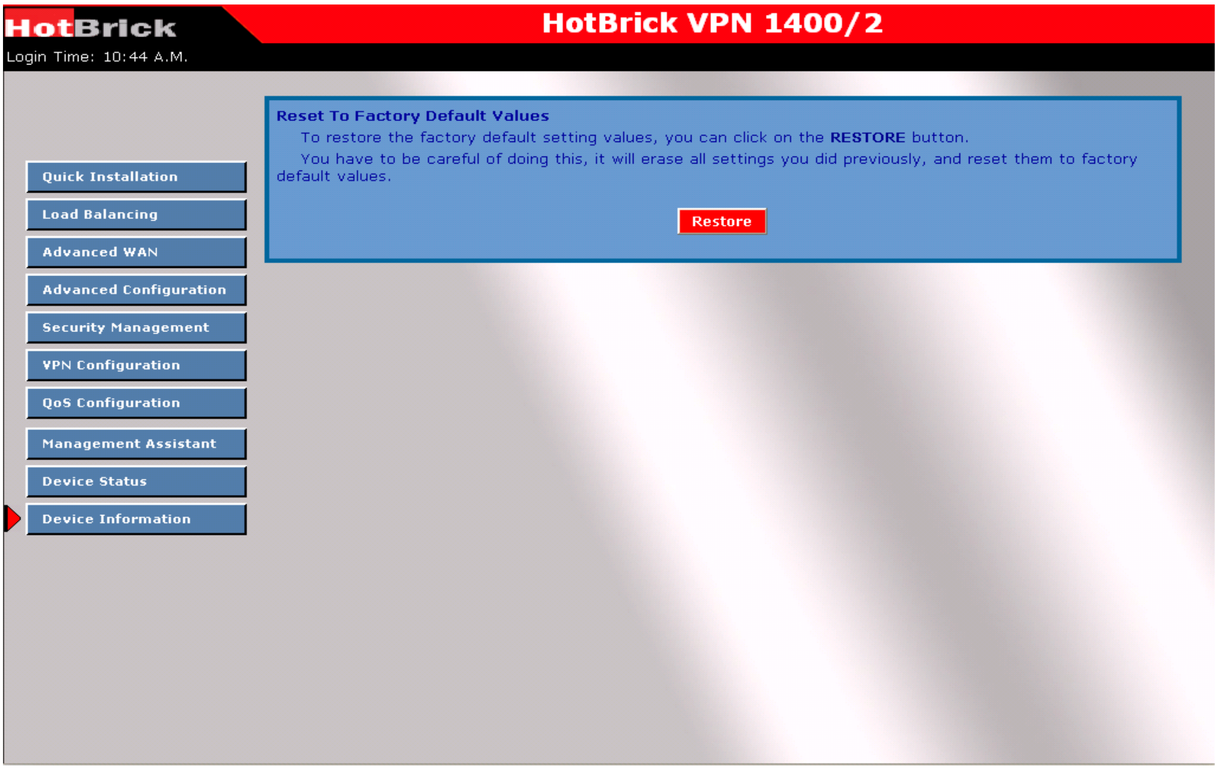
Device Statistics

- **System UpTime –** The time since the system of a device was last initialized.
- **CPU Usage –** The current CPU usage percentage.
- **Memory Usage –** The current usage percentage of Memory (Heap & Queue).

Buttons

- **Refresh –** Update the data on screen.
- **Restart –** Restart (reboot) the Dual WAN VPN Firewall.

Restore Factory Defaults – This will delete all existing settings, and restore the factory default settings. See below for details.



Reset To Factory Default Values

To restore the factory default setting values, you can click on the **RESTORE** button.

You have to be careful of doing this, it will erase all settings you did previously, and reset them to factory default values.

Restore

If the "Restore Default Value" button on this screen is clicked:

□ **All your current settings will be erased.**

□ **The default IP address, password and ALL other settings will be restored to the default values.**

□ **The DCHP server function will be enabled.**

These changes mean that your prior configuration is invalid, and you will have to re-connect to the Dual WAN VPN Firewall using its default IP address (192.168.1.1).

Appendix A

Specifications

Model	HotBrick VPN 1400/2 Dual WAN Firewall
Dimensions	120mm (W) x 427mm (D) x 43.4mm (H)
Operating Temperature	0° C to 40° C
Storage Temperature	-10° C to 70° C
Network protocol Protocol:	TCP/IP
Network Interfaces	16 Ethernet: 14 * 10/100BaseT (RJ45) auto-Switching Hub ports for LAN devices 2 * 10/100BaseT (RJ45) for WAN
LEDs	14 LAN 2 WAN 2 Status 1 Power
Power Input	AC 110V-230V @ 0.5A

FCC Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause improper operation.

CE Marking Warning

This is a Class B product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Appendix B

Windows TCP/IP Setup

Overview

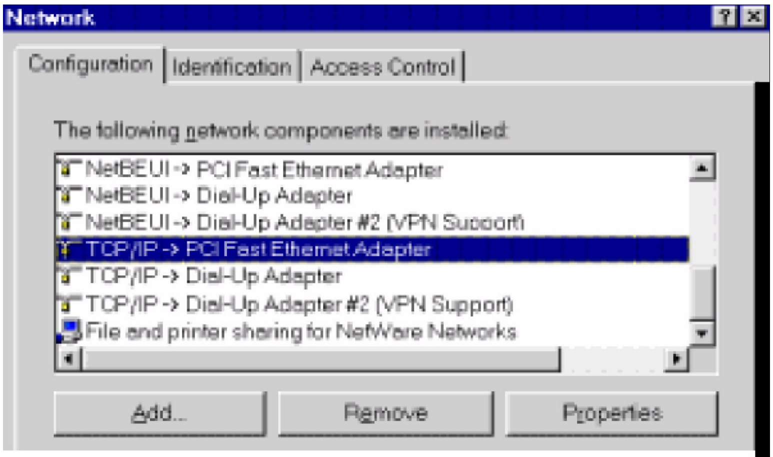
TCP/IP Settings

If using the default Load Balancer settings, and the default Windows 95/98/ME/2000 settings, no changes need to be made.

- By default, the Dual WAN VPN Firewall will act as a DHCP Server, automatically providing a suitable IP Address (and related information) to each PC when the PC boots.
- For all non-Server versions of Windows, the default TCP/IP setting is to act as a DHCP client.
- If you wish to check your TCP/IP settings, the procedure is described in the following sections.
- If your LAN has a Router, the LAN Administrator must re-configure the Router itself.

Checking TCP/IP Settings - Windows 9x/ME:

1. Select *Control Panel - Network.* You should see a screen like the following:



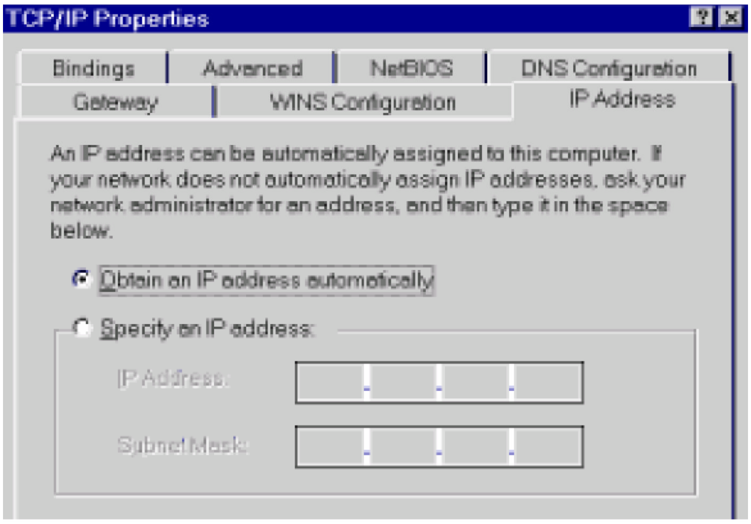
The following network components are installed:

NetBEUI -> PCI Fast Ethernet Adapter
NetBEUI -> Dial-Up Adapter
NetBEUI -> Dial-Up Adapter #2 (VPN Support)
TCP/IP -> PCI Fast Ethernet Adapter
TCP/IP -> Dial-Up Adapter
TCP/IP -> Dial-Up Adapter #2 (VPN Support)
File and printer sharing for NetWare Networks

Figure B-1: Network Configuration

2. Select the *TCP/IP* protocol for your network card.

3. Click on the *Properties* button. You should then see a screen like the following.



An IP address can be automatically assigned to this computer. If your network does not automatically assign IP addresses, ask your network administrator for an address, and then type it in the space below.

● Obtain an IP address automatically

○ Specify an IP address:

IP Address: . . .

Subnet Mask: . . .

Ensure your TCP/IP settings are correct, as follows:

Using DHCP

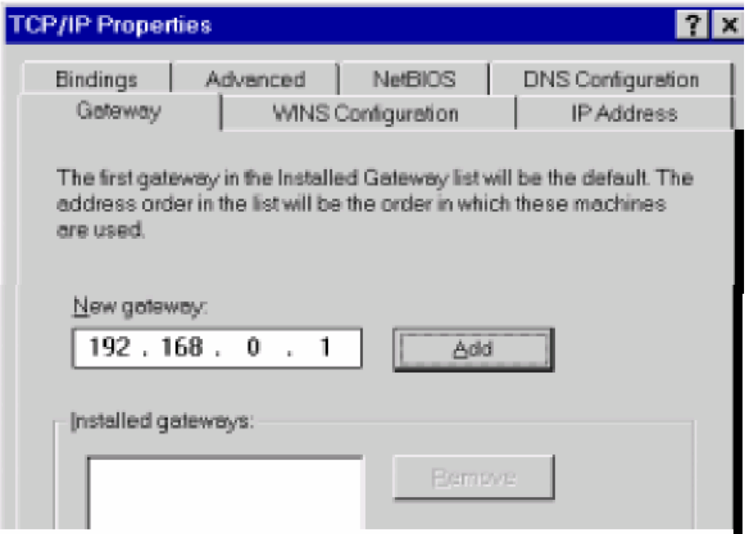
To use DHCP, select the radio button *Obtain an IP Address automatically.* This is the default Windows settings.
Restart your PC to ensure it obtains an IP Address from the VPN 1400/2 Firewall Router.

Using "Specify an IP Address"

If your PC is already configured, check with your network administrator before making the following changes:

- If the *DNS Server* fields are empty, select *Use the following DNS server addresses,* and enter the DNS address or addresses provided by your ISP, then click *OK.*
- On the *Gateway* tab, enter Dual WAN VPN Firewall IP address in the *New Gateway* field and click *Add,* as shown below. (Your LAN administrator can advise you of the IP Address they assigned to the Dual WAN VPN Firewall.)

Statistics



The first gateway in the Installed Gateway list will be the default. The address order in the list will be the order in which these machines are used.

New gateway:
192 . 168 . 0 . 1

Installed gateways:

Figure B-3: Gateway Tab (Win 95/98)

- On the *DNS Configuration* tab, ensure *Enable DNS* is selected. If the *DNS Server Search Order* list is empty, enter the DNS address provided by your ISP in the fields beside the *Add* button, then click *Add.*

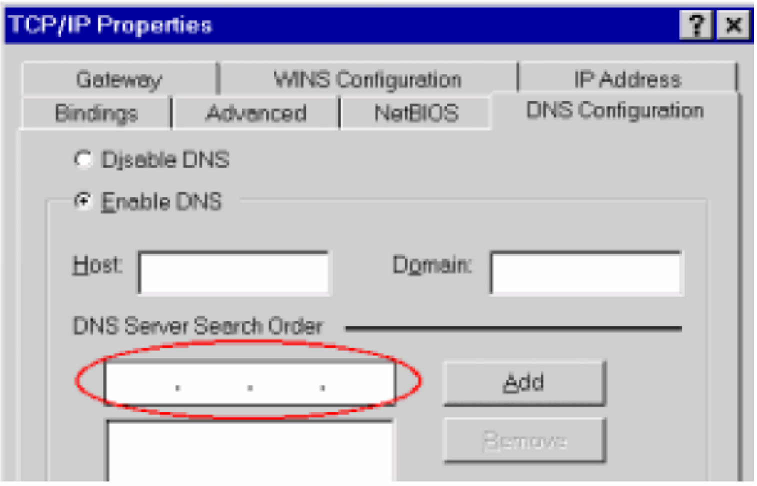
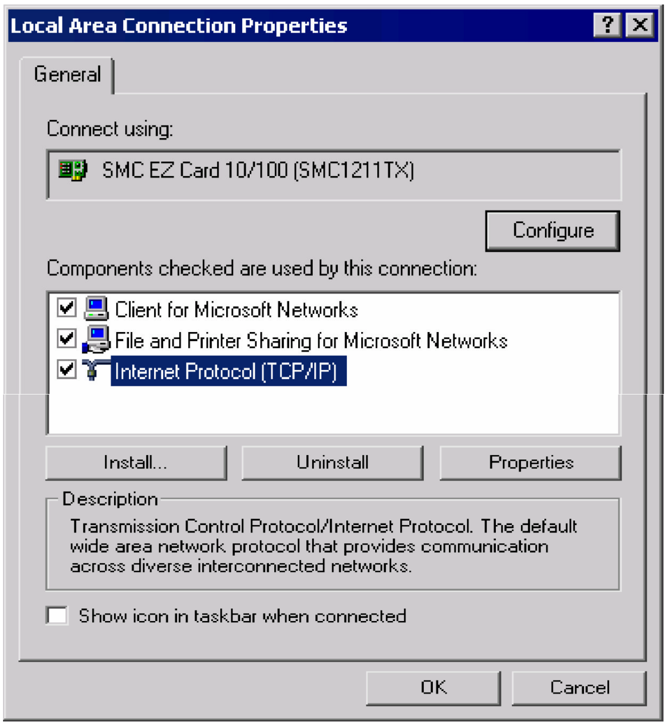


Figure B-4: DNS Tab (Win 95/98)

Checking TCP/IP Settings - Windows 2000:

6. Select *Control Panel - Network and Dial-up Connection.*

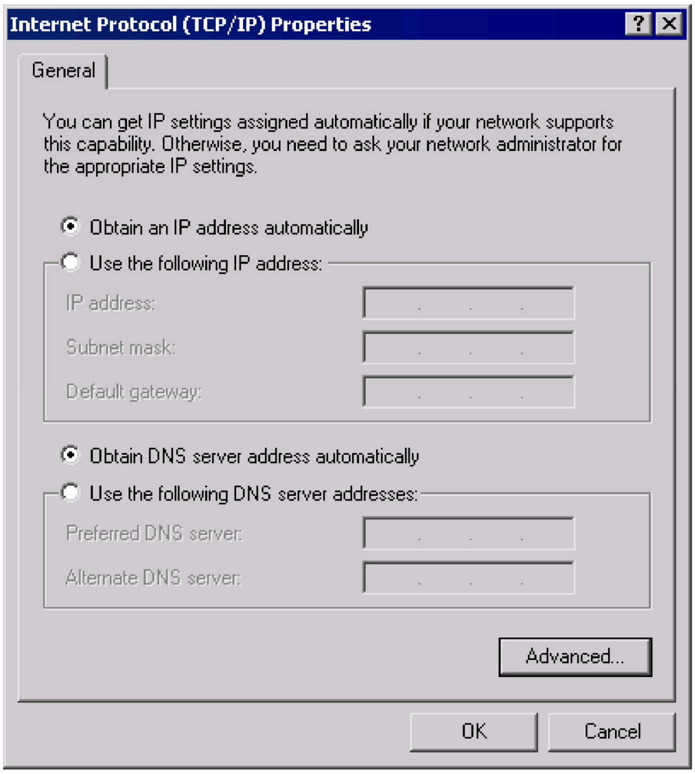
- Right click the *Local Area Connection* icon and select *Properties.* You should see a screen like the following:


Local Area Connection Properties
General
Connect using:
SMC EZ Card 10/100 (SMC1211TX)
Configure
Components checked are used by this connection:
☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
□ Show icon in taskbar when connected
OK
Cancel

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

Figure B-5: Network Configuration (Win 2000)

- Select the *TCP/IP* protocol for your network card.
- Click on the *Properties* button. You should then see a screen like the following.



Internet Protocol (TCP/IP) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

● Obtain an IP address automatically

○ Use the following IP address:

IP address:

Subnet mask:

Default gateway:

● Obtain DNS server address automatically

○ Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

Figure B-6: TCP/IP Properties (Win 2000)

- Ensure your TCP/IP settings are correct.

Using DHCP

To use DHCP, select the radio button *Obtain an IP Address automatically.* This is the default Windows setting.
Restart your PC to ensure it obtains an IP Address from the Dual WAN VPN Firewall.

Using a fixed IP Address ("Use the following IP Address")

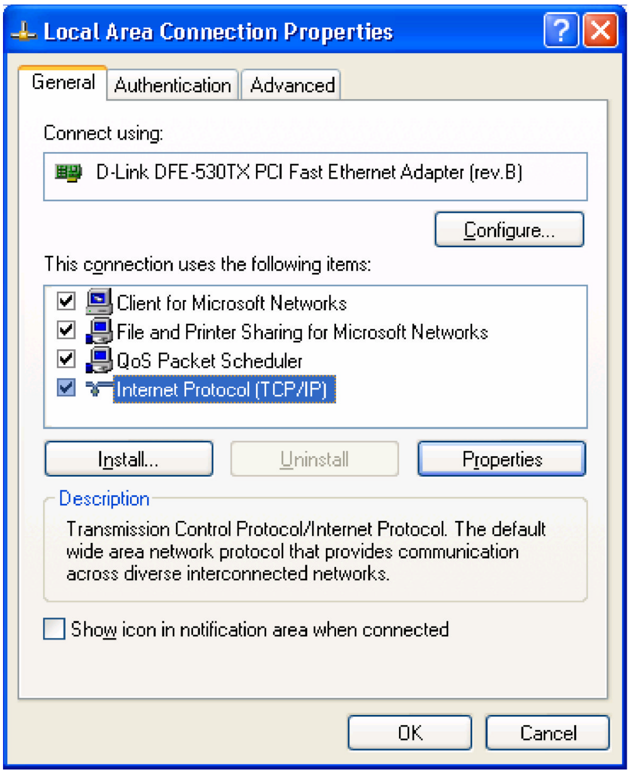
If your PC is already configured, check with your network administrator before making the following changes:

- Enter Dual WAN VPN Firewall IP address in the *Default gateway* field and click *OK.* (Your LAN administrator can advise you of the IP Address they assigned to the Multi-WAN VPN Link Balancer.)
- If the *DNS Server* fields are empty, select *Use the following DNS server addresses,* and enter the DNS address or addresses provided by your ISP, then click *OK.*

Checking TCP/IP Settings - Windows XP:

7. Select Control Panel - Network Connection.

- Right click the *Local Area Connection* and choose *Properties*. You should see a screen like the following:



Local Area Connection Properties

Connect using:

D-Link DFE-530TX PCI Fast Ethernet Adapter (rev.B)

This connection uses the following items:

☑ Client for Microsoft Networks
☑ File and Printer Sharing for Microsoft Networks
☑ QoS Packet Scheduler
☑ Internet Protocol (TCP/IP)

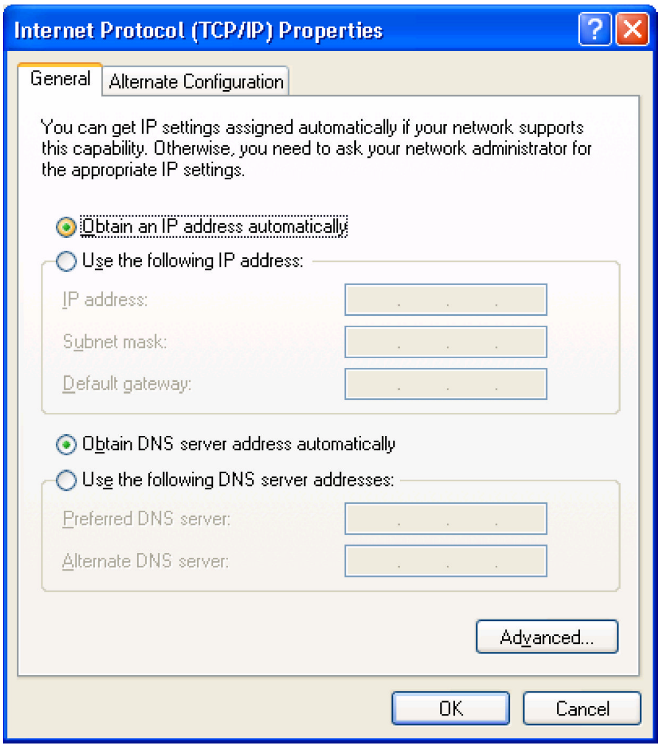
Description

Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.

☐ Show icon in notification area when connected

Figure B-7: Network Configuration (Windows XP)

- Select the *TCP/IP* protocol for your network card.
- Click on the *Properties* button. You should then see a screen like the following:



You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

● Obtain an IP address automatically

○ Use the following IP address:

IP address: . . .

Subnet mask: . . .

Default gateway: . . .

● Obtain DNS server address automatically

○ Use the following DNS server addresses:

Preferred DNS server: . . .

Alternate DNS server: . . .

Figure B-8: TCP/IP Properties (Windows XP)

- □ Ensure your TCP/IP settings are correct.

Using DHCP

To use DHCP, select the radio button *obtain an IP Address automatically.* This is the default Windows setting.
Restart your PC to ensure it obtains an IP Address from the Multi-WAN VPN Link Balancer.

Using a fixed IP Address ("Use the following IP Address")

If your PC is already configured, check with your network administrator before making the following changes.

- □ Enter the Dual WAN VPN Firewall IP address in the *Default gateway* field and click *OK.* (Your LAN administrator can advise you of the IP Address they assigned to the Dual WAN VPN Firewall.)
- □ If the *DNS Server* fields are empty, select *Use the following DNS server addresses,* and enter the DNS address or addresses provided by your ISP, then click *OK.*

Appendix C

Troubleshooting

Overview

This chapter covers some common problems that may be encountered while using the Dual WAN VPN Firewall and some possible solutions for them. If you follow the suggested steps and the Dual WAN VPN Firewall still does not function properly, contact your dealer for further advice.

General Problems

Problem : Can't connect to the Dual WAN VPN Firewall to configure it.

Solution : Check the following:

- □ The Load Balancer is properly installed, LAN connections are OK, and it is powered ON.
- □ Ensure that your PC and the Dual WAN VPN Firewall are on the same network segment. (If you don't have a router, this must be the case.)
- □ If your PC is set to "Obtain an IP Address automatically" (DHCP client), restart it.
- □ If your PC uses a Fixed (Static) IP address, ensure that it is using an IP Address within the range 192.168.1.2 to 192.168.1.254 and thus compatible with the Dual WAN VPN Firewall default IP Address of 192.168.1.1. Also, the Network Mask should be set to 255.255.255.0 to match the VPN 1400/2 Mask.

Internet Access

Problem : When I try to reach an URL or IP address I get a time out error.

Solution : A number of things could be causing this. Try the following troubleshooting steps.

- □ Check if other PCs work. If they do, ensure that your PCs IP settings are correct. If using a Fixed (Static) IP Address, check the Network Mask, Default gateway and DNS as well as the IP Address.
- □ If the PCs are configured correctly, but still not working, check the VPN 800/2 Firewall Router. Ensure that it is connected and ON. Connect to it and check its settings. (If you can't connect to it, check the LAN and power connections.)
- □ If the Dual WAN VPN Firewall is configured correctly, check your Internet connection (DSL/Cable modem etc) to see that it is working correctly.

Problem : Some applications do not run properly when using the VPN 1400/2 Dual WAN Firewall.

Solution :

The Dual WAN VPN Firewall processes the data passing through it, so it is not transparent.
Use the *Special Applications* feature to allow the use of Internet applications which do not function correctly.
If this does not solve the problem use the *DMZ* function. This should work with most applications, but:

- □ It is a security risk, since the firewall is disabled for the *DMZ* PC.
- □ Only one (1) PC can use this feature.

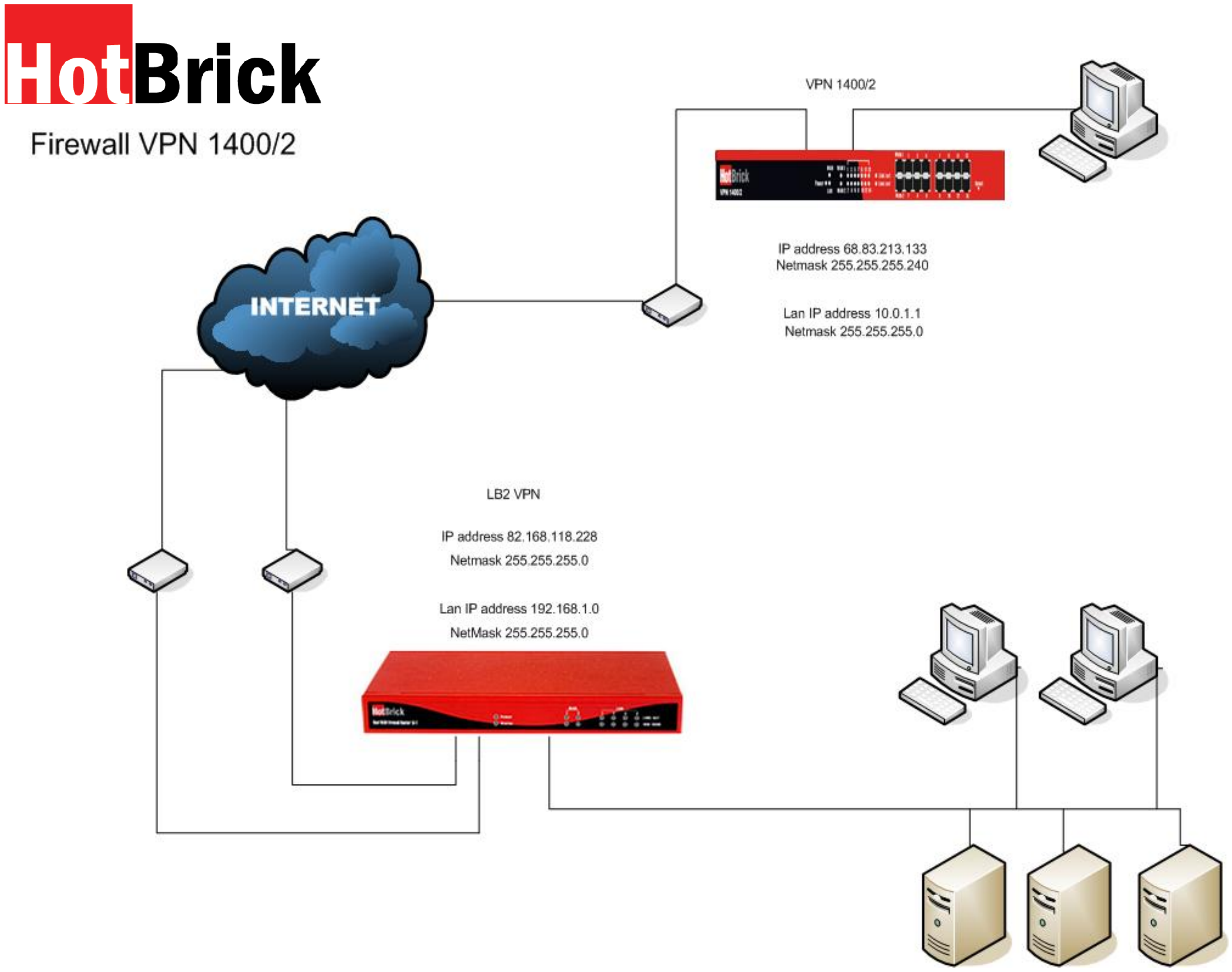
Appendix D : IPSec Tunnel Examples

VPN Configuration – Examples

Tunnel to HotBrick Unit

VPN 1400/2 To: 401VPNX2 or LB-2

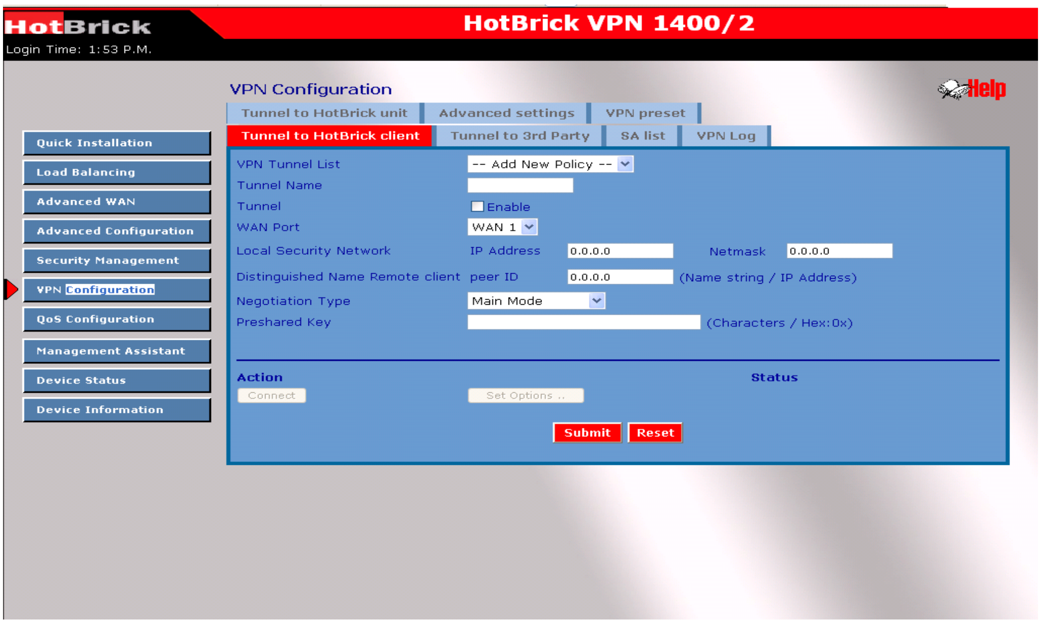
The HotBrick units in the following example use registered IP addresses. You have to replace these addresses with IP addresses that are available to you. These settings are only possible if you have a static IP address available on one or both of your WAN ports.



This example takes a tunnel between a VPN 1400/2 and a LB-2 VPN. This example applies to the HotBrick 401VPN X2, LB-2 VPN and 1400/2 series, you can use either unit at both sides. You can use the IP addresses from the network diagram above.

This type of tunnel is named a LAN to LAN IPSec tunnels.

First we will make settings in the VPN 1400/2

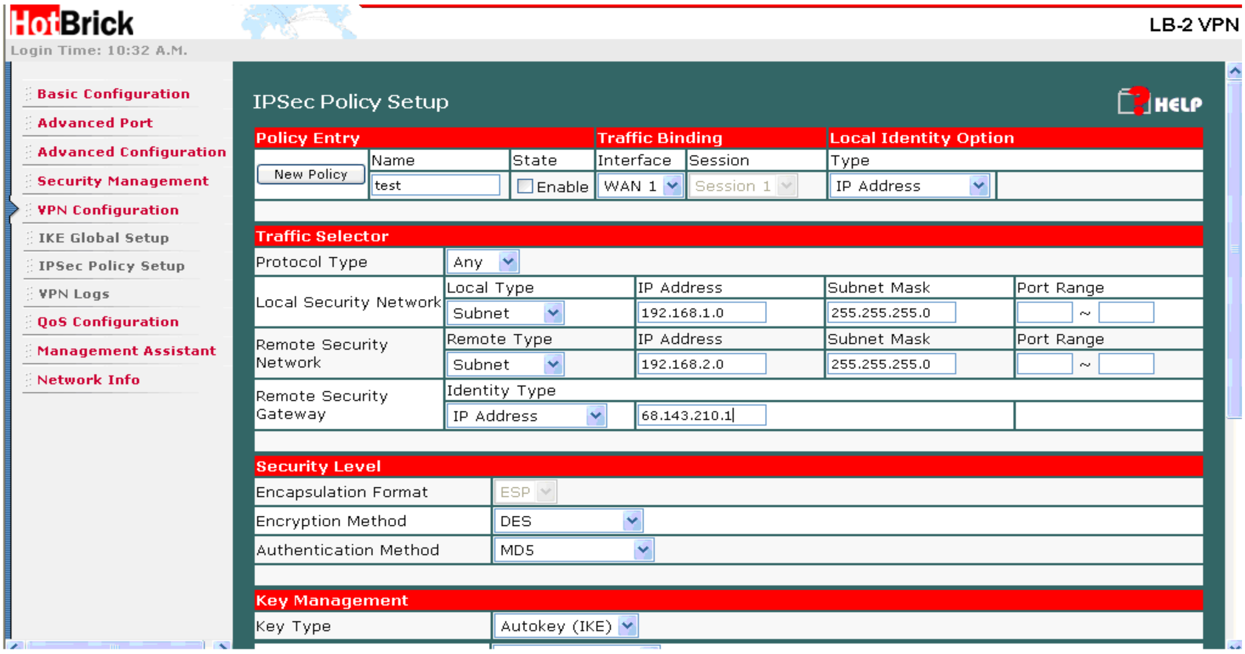


VPN Configuration

VPN Tunnel List	-- Add New Policy --		
Tunnel Name			
Tunnel	□ Enable		
WAN Port	WAN 1		
Local Security Network	IP Address 0.0.0.0	Netmask	0.0.0.0
Distinguished Name Remote client	peer ID 0.0.0.0	(Name string / IP Address)	
Negotiation Type	Main Mode		
Preshared Key		(Characters / Hex:0x)	

Action | Status

Next we will make settings for the LB-2 VPN



IPSec Policy Setup

Policy Entry			Traffic Binding		Local Identity Option
	Name	State	Interface	Session	Type
New Policy	test	□ Enable	WAN 1	Session 1	IP Address

Traffic Selector

Protocol Type	Any			
Local Security Network	Local Type	IP Address	Subnet Mask	Port Range
	Subnet	192.168.1.0	255.255.255.0	~
Remote Security Network	Remote Type	IP Address	Subnet Mask	Port Range
	Subnet	192.168.2.0	255.255.255.0	~
Remote Security Gateway	Identity Type			
	IP Address	68.143.210.1		

Security Level

Encapsulation Format	ESP
Encryption Method	DES
Authentication Method	MD5

Key Management

Key Type	Autokey (IKE)

Note : you need different subnets at both ends of the tunnel. This is because the IPSec tunnel will connect the two subnets so they need to be different in order to avoid IP address conflicts.

These are all the settings you need to setup the tunnel. You can push the connect buttons at one of the locations, this unit will be initiator of the tunnel, the other unit will be the responder. You can check the tunnel status in the SA list. Information about key lifetimes and these kind of things you can find by pushing the tunnel status button in **VPN Configuration – Advanced settings.**